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ABSTRACT

This document reports a study of the processes involved in providing information services on curriculum resources to educational communities. In the first part, the development of the system for exchanging information within the Australian educational community is described, and the purpose, method, and results of a survey of American, Canadian, and British educational agencies providing information services is reported. In the second part, the programs are described for 12 information systems: (1) the A-V Online database provided by the National Information Center for Educational Media (NICEM, Access Innovations, Inc.; (2) the Exceptional Child Education Resources (ECER) database provided by the Council for Exceptional Children; (3) the EPIE ON-LINE database provided by the Educational Products Information Exchange (EPIE) Institute; (4) the MARIS On-Line database provided by the MARIS On-Line Limited; (5) the Canadian Education Index (CEI) provided by Micromedia Limited; (6) the Vocational Educational Curriculum Materials (VECM) database and Resources in Vocational Education (RIVE) database provided by the National Center for Research in Vocational Education (NCRVE); (7) the National Educational Resources Information Service (NERIS) database provided by the NERIS Trust; (8) the Resources in Computer Education (RICE) database provided by the Northwest Regional Educational Laboratory (NWREL); (9) the Ontario Education Resources Information System (ONTERIS) database provided by the Ontario Ministry of Education; (10) the Special Educational Needs Database (SEND) provided by the Scottish Council for Educational Technology (SCET); (11) the Educational Resources Information Center (ERIC) database provided by the U.S. Department of Education; and (12) the British Education Index (BEI) database provided by the University of Leeds. Each description presents information under the following hearings: program organization; development; input; holdings; output; and references. An appendix of agencies surveyed, a bibliography, a glossary, and an index are included. (Author)

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The Design Of Systems for Exchanging Information on Curriculum Products

A Guide to Information Services in Canada, United Kingdom, and United States of America

Michael G. Watt

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Submitted in partial fulfilment of the requirements for the Master of Education (Qualifying) degree at the University of Tasmania.

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A Guide to Information Services in Canada, United Kingdom, and United States of America

ABSTRACT

This document reports a study of the processes involved in providing information services on curriculum resources to educational communities. In the first part, the development of the system for exchanging information within the Australian educational community is described, and the purpose, method and results of a survey of American, Canadian and British educational agencies providing information services is reported. In the second part, the programs are described for twelve information systems: (1) the A-V Online database provided by the National Information Center for Educational Media (NICEM), Access Innovations, Inc.; (2) the Exceptional Child Education Resources (ECER) database provided by the Council for Exceptional Children; (3) the EPIE ON-LINE database provided by the Educational Products Information Exchange (EPIE) Institute; (4) the MARIS On-Line database provided by the MARIS On-Line Limited; (5) the Canadian Education Index (CEI) database provided by Micromedia Limited; (6) the Vocational Educational Curriculum Materials (VECM) database and Resources in Vocational Education (RIVE) database provided by the National Center for Research in Vocational Education (NCRVE); (7) the National Educational Resources Information Service (NERIS) database provided by the NERIS Trust; (8) the Resources in Computer Education (RICE) database provided by the Northwest Regional Educational Laboratory (NWREL); (9) the Ontario Education Resources Information System (ONTERIS) database provided by the Ontario Ministry of Education; (10) the Special Educational Needs Database (SEND) provided by the Scottish Council for Educational Technology (SCET); (11) the Educational Resources Information Center (ERIC) database provided by the United States Department of Education; and (12) the British Education Index (BEI) database provided by the University of Leeds. Each description presents information under the following headings: program organisation; development; input; holdings; output; and references. An appendix of agencies surveyed, a bibliography, a glossary, and an index are included.

CONTENTS

Preface 2

PART I: INTRODUCTION

1. The National Exchange of Curriculum Information in Australia 5
2. The Research Design 11
3. The Structure of the Guide 17

PART II: PROGRAM DESCRIPTIONS

1. Access Innovations, Inc. 21
2. Council for Exceptional Children (CEC) 27
3. Educational Products Information Exchange (EPIE) Institute 34
4. MARIS On-Line Limited 50
5. Micromedia Limited 55
6. National Center for Research in Vocational Education (NCRVE) 59
7. NERIS Trust 67
8. Northwest Regional Educational Laboratory (NWREL) 78
9. Ontario Ministry of Education, Centre for Curriculum Resources and Technologies 84
10. Scottish Council for Educational Technology (SCET) 91
11. United States Department of Education, Office of Educational Research and Improvement, Educational Resources Information Center (ERIC) 100
12. University of Leeds 133

Appendix: Agencies providing databases on curriculum products 140

Bibliography 149

Glossary 151

Index 153

PREFACE

This report arose from communication between the author and Warren Brewer, the Curriculum and Information Manager of the Curriculum Corporation, during 1991. The Curriculum Corporation is a national educational organisation in Australia, founded in 1990 to promote research and development on curriculum issues, and to implement a range of programs in the area of the curriculum in cooperation with state and territorial education departments. It has inherited a variety of programs from two organisations which previously provided these types of services nationally during the 1980s. The first, the Curriculum Development Centre (CDC) founded in 1973, performed the functions of research, development and diffusion relating to school curricula and curriculum materials. The second, the Australian Schools Catalogue Information Service (ASCIS) formed in 1984, established a database for storing information on instructional materials held in library collections of Australian schools.

Soon after the foundation of the Curriculum Corporation, it became apparent that this database in its present form will not meet the needs of the Curriculum Corporation in its work relating to its main activity during the 1990s, that of developing a common curriculum framework for all Australian schools. An important part of the Curriculum Corporation's agenda during 1991-92 involves redesigning the content of the database and trialling new information services. It is proposed that the descriptions of the processes, services and products of alternative information systems presented in this report may form the basis for developing a set of recommendations in a subsequent report that will provide the means to improve the quality of the processes, products and services of this information system.

The author wishes to acknowledge the assistance given by the following individuals in providing information on particular topics described in the introduction to this report: Warren Brewer, Curriculum and Information Manager, and Jennifer Ferguson, Coordinator, Curriculum Information, at the Curriculum Corporation, Carlton South, Victoria, for information on the activities of the Curriculum Corporation; Mavis Heffernan, Statewide School Library Support Centre, Victoria Ministry of Education, Prahran, Victoria, for information on the Environment Education database; Rosaleen Hellicar, Curriculum Resources Section, Tasmania Department of Education and the Arts, Hobart, Tasmania, for information on the Asian Studies database; Janet Swinburne, RMIT Libraries, Victoria University of Technology, Melbourne, Victoria, for information on AUSTROM, the Australian social science, law and education databases on CD-ROM.

The author also wishes to thank the following persons for their assistance in providing information on the information systems described in second part of this report: John Bower, the Manager, Editorial Services at the National Information Center for Educational Media (NICEM), Access Innovations, Inc., Albuquerque, New Mexico, for information on the National Information Center for Educational Media (NICEM); P. Kenneth Komoski, the Executive Director of the Educational Products Information Exchange (EPIE) Institute, Water Mill, New York, for information on the Educational Products Information Exchange (EPIE) Institute; David Carlson, the System Manager, National Center for Research in Vocational Education (NCRVE), Graduate School of Education, University of California, Berkeley, California, for information on the National Center for Research in Vocational Education (NCRVE); David Taylor, the Chief Executive of the National Educational Resources Information Service (NERIS), Woburn, Milton Keynes, England, for information on the National Educational Resources Information Service (NERIS); Donald C. Holznagel, the Director of the Technology Program at the Northwest Regional Educational Laboratory (NWREL), Portland, Oregon, for information on the MicroSIFT Project; Linda Nicolson, the Acting Coordinator of the Ontario Education Resources Information System (ONTERIS), Ontario Ministry of Education, Toronto, Ontario, for information on the Ontario Education Resources Information System (ONTERIS); Stuart Beresford, the Project Manager for the Special Educational Needs Database (SEND), Scottish Council for Educational Technology (SCET), Glasgow, Scotland, for information on the Special Educational Needs Database (SEND); Ted Brandhorst, the Director of the ERIC Processing and Reference Facility, Rockville, Maryland, and Belinda Taheri, the Senior Information Specialist at ACCESS ERIC, Rockville, Maryland, for information on the Educational Resources Information Center (ERIC); and Philip Sheffield, the Editor of the British

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Part I

Introduction

1

THE NATIONAL EXCHANGE OF CURRICULUM INFORMATION IN AUSTRALIA

Initiatives for curriculum reform in Australian education during the 1960s were stimulated by influences from the curriculum reform movement in the United States and the United Kingdom. State education departments, professional associations and other educational organisations established projects for curriculum reform which led the Australian Commonwealth to fund the Australian Science Education Project (ASEP) in 1968. For the first time, the ASEP initiated national cooperation between various educational authorities in Australia for the purpose of curriculum development. Moran (1980) reported that such cooperation led educational authorities to lobby the Australian Commonwealth to establish a national agency for curriculum development, so that these reforms could be extended throughout the country. Founded in June 1973, the Curriculum Development Centre (CDC) was allocated the functions of developing and disseminating school curricula and related curriculum materials. The greater part of the work of the CDC was involved in coordinating projects such as the Social Education Materials Project (SEMP), and the Language Development Project (LDP) during the period between 1973 and 1981. The success of this initial period was checked during the 1980s by political constraints and funding restrictions which forced the CDC to close between 1981 and 1984. The CDC was reinstituted as one of four divisions of the new Commonwealth Schools Commission and required to collaborate more extensively with state education departments and other educational organisations on projects of curriculum development (Hughes and Kennedy, 1987). This led to collaboration with the Australian Schools Catalogue Information Service (ASCIS).

A similar development towards national cooperation in the cataloguing of educational resources held in school libraries arose from a series of pilot studies during the 1970s. These studies, leading to the formation of the ASCIS, have been reported widely (Dwyer, 1978; Goodman, 1980; Bahnisch, 1983; Lane and Chisholm, 1984; and Dwyer, 1988). In 1973, the National Library of Australia trialled the extension of a catalogue card service to schools. A proposal to establish a national cataloguing agency for school libraries was first initiated at a conference of state representatives held in June 1974. As a result, the Commonwealth Schools Commission commissioned two studies, one in 1974 which recommended the establishment of a national agency to provide catalogue cards for schools, and the other in 1977 which specified the requirements for an information system including input from state systems and output provisions in magnetic tape, microfiche and catalogue cards. The introduction in 1977 by the South Australia Department of Education of the South Australian Education Resources Information System (SAERIS), which provided a database producing output in microfiche and catalogue cards, formed the basis for a two-year pilot study at the national level by the Commonwealth Schools Commission, commencing in April 1978. Intended to provide a bibliographic database of information on instructional materials with output services in catalogue cards and microfiche, the ASCIS Pilot Project used the SAERIS database to form the prospective ASCIS database. Concurrently, three methods were trialled for prospective implementation as a national information service to schools. In the first, cataloguing information was exchanged between the SAERIS and state education authorities. In the second, 166 South Australian schools received copies of the database in the form of microfiche. In the third, 200 Tasmanian schools received the database from a magnetic tape through TASNET, an interactive online system established by the Tasmania Department of Education in 1970. Following the completion of the pilot project in July 1980, the Australian Schools Catalogue Information Service Steering Committee (1980) reported five main outcomes: a database of 100,000 records had been developed; software to access the database had been developed; microfiche and catalogue card services had been established; an online cataloguing service had been established in Tasmania; and online access to the database was available through a host service, the Australian Online Information Network (AUSINET).

The success of the trial project led to the formation of a planning group in December 1981 to direct the formative development of the ASCIS. Late in 1983, a staff was appointed to form the ASCIS secretariat. Early in 1984, the ASCIS contracted ACI Computer Services to develop a database based upon the Dortmund Bibliographic Information System and the Leuven Integrated Bibliographic System. Following a consultant's report, AUSMARC III was selected as the recognised standard upon which instructional materials held in school libraries should be indexed,

with the records providing additional scope for an abstract. Cataloguing agencies were established in the Western Australia Department of Education and the Australian Capital Territory Schools Authority as well as the South Australia Department of Education. These agencies solicited materials from school libraries, publishers, booksellers and government agencies. The 150,000 indexed records, contributed by these three cataloguing agencies, formed the basis for the Schools Catalogue Information Service (SCIS) file on the database when the national service was initiated in August 1984. At that time, the service provided annually cumulated computer output microfiche supplemented by monthly updates of newly indexed records, catalogue card sets, and magnetic tapes. In 1986, online access was provided to the SCIS file, and the service also incorporated the dissemination of the database on microcomputer diskettes. Eventually, the SCIS file grew to contain 400,000 records, and the ASCIS provided services to 4,000 Australian schools.

As the outcome of an initiative by the Western Australia Department of Education in 1980, the Commonwealth Schools Commission established a one-year project in March 1982 to create a subject headings list to provide a controlled vocabulary for teacher-librarians to index and retrieve information on instructional materials from the ASCIS database. Compiled by two project officers from various lists of subject headings used for library cataloguing, the subject headings list was field-tested and revised on the basis of trialling at a sample of schools and state cataloguing agencies during 1983. The subject headings list, which uses Australian English terms, is designed so that it can be used by school students. The Australian Schools Catalogue Information Service (1985) followed the first edition with a second, published in 1989, which incorporated 700 additions and changes.

Broadbent and Kemp (1983) reviewed activities during the 1970s to provide information on curriculum products to Australian teachers. These activities included a study undertaken during 1976 by the CDC to survey teachers' needs for information on curriculum products, which led to a trial project to implement a Curriculum Information Service between 1976 and 1979. Late in 1981, the Australian Education Council (AEC) established a Curriculum Materials Committee which recommended in 1982 that a national curriculum information service be established. It was not until after the CDC had been reinstituted in 1984, however, that the information system developed by the ASCIS was used to input and store information on curriculum resources for subsequent dissemination to classroom teachers. Cropley (1985) reported that collaboration was initiated between the CDC and other educational authorities in 1985 to develop the Australian Curriculum Information Network (ACIN). A national clearinghouse was established, and coordinators were appointed in each state and territory to collect and screen syllabuses, curriculum materials, curriculum policy statements, and curriculum research reports produced by educational organisations. Cropley (1987) reported that the *Australian Thesaurus of Education Descriptors*, developed for use with the Australian Education Index, was used to index records for the ACIN subfile, although the use of this controlled vocabulary was later abandoned so that the ACIN subfile would conform to other files and subfiles within the ASCIS database. Access to the ACIN subfile of 1000 records was provided in October 1987 by microfiche updated every six months. The ACIN subfile has been expanded since that time to hold 6000 records.

Krystyn (1987) reported that the CDC was funded in 1986 to undertake planning for the National Software Coordination Unit (NSCU), following a feasibility study conducted by the Western Australian Educational Computing Consortium (1986). Founded in February 1987, this body established a National Workshop on Software for Education, formed a network for sharing information on computer education projects, and developed the Computer Software Review (CSR) subfile within the ASCIS database containing evaluations of microcomputer courseware. Berman (1987) described that the indexes in the subfile were designed to provide information on publication, technical details, distribution, content description, and specifications of audiences and age groups for courseware. Online access to the CSR subfile became available in April 1988, and the service also provided microfiche updated every six months. At present, the CSR subfile contains 1,000 records.

Formed to promote a diverse range of activities to commemorate the bicentennial year in 1988 of the foundation of European settlement in Australia, the Australian Bicentennial Authority sponsored the CDC to develop the Bicentennial Australian Studies Schools Project as part of its national

education program. The purpose of the project was to identify educational resources that support the teaching of Australian heritage studies. The resources identified during the course of the project included the Lu Rees Archives, a collection of children's literature housed in the University of Canberra. Information on these resources was indexed to form the Australian Studies subfile within the ASCIS database.

The agenda for reform of the Australian educational system, a major priority of the Labor government during the latter part of the 1980s, led the directors-general of state education departments to examine how national and state educational authorities could collaborate to best effect through the AEC. In May 1988, the Minister for Employment, Education and Training invited the state educational authorities to cooperate towards developing a curriculum framework for Australian schools to include common objectives which also would accommodate specific content to meet particular regional needs (Dawkins, 1988). In agreeing to this proposal, the Australian Education Council (1989) recommended that the functions of the CDC and the ASCIS should be amalgamated within a new national agency to be named the Curriculum Corporation. The CDC officially ceased to function in 1987 although certain programs were maintained by the Commonwealth Department of Employment, Education and Training. The Curriculum Corporation did not commence operations, however, until the appointment of its Executive Director in May 1990.

The Curriculum Corporation, a company limited by guarantee, is governed by a Board of Directors consisting of representatives from each state and territory department of education (except New South Wales), the Commonwealth Department of Employment, Education and Training, the National Council of Independent Schools Associations, the National Catholic Education Commission, and the National Board of Employment, Education and Training. In addition, the New Zealand Department of Education became a member during 1991. When planning the functions of the Curriculum Corporation, the AEC decided that it should not be a policy-making body or be responsible for decision-making on curriculum issues. By subsuming the functions of the CDC and the ASCIS, it is intended that the Curriculum Corporation should continue to engage in collaborative activities with other educational organisations for the purpose of curriculum development. In an analysis of the structure and mode of operation proposed for the Curriculum Corporation by the AEC, Kemmis (1990) identified potential constraints arising from inadequate funding and the adoption of a centre-periphery view of curriculum research, development and evaluation modelled upon the past operations of the CDC, in which curriculum materials, pedagogies and modes of assessment are developed in consultation with senior administrators of state education systems. Kemmis argued that the Curriculum Corporation must combine this form of curriculum development with pedagogical and professional development at the school level, thereby providing teachers with the capacities and commitments to implement curriculum materials that support new curriculum proposals.

The mission of the Curriculum Corporation is to facilitate activities in curriculum development, to publish curriculum materials, and to provide curriculum information within the parameters of cooperation with collaborating organisations and client groups. This mission is to be accomplished through three main programs: Curriculum; Publishing; and Information. The goals of the curriculum program are to undertake analysis and research related to national initiatives, undertake commissioned projects, to provide advisory services to member and other curriculum-related organisations, and provide advice to the AEC on national curriculum issues. The goals of the publishing program are to publish products of national collaborations on curriculum issues, publish selected materials for the AEC, publish products developed by member organisations and other curriculum-related organisations, and market publications and products through use of a catalogue and customer services. The information program, of particular relevance to this study, has the goals of increasing the use of library and curriculum information services and products, increasing awareness of accessible curriculum information for effective decision-making about learning and teaching, maintaining the accuracy and currency of information, managing selected curriculum information on the database relevant to national collaboration in curriculum development, improving access to information and its delivery to member systems and their schools, providing cost effective collection, storage and dissemination of information on the database and its products and services, and assisting in the development of new products and services that are compatible with the needs of member systems.

In July 1986, the Australian Education Council adopted the strategy of identifying and drawing up lists of activities and materials, either existing or being undertaken by educational authorities in eight curriculum areas: mathematics; science; technology; English and literacy; study of society; health, physical education and personal development; the arts; and languages other than English. Each of the state and territorial departments of education was given responsibility for a particular curriculum area. This work, referred to as 'mapping the curriculum', was begun in 1988, and its scope has been surveyed and reported by the Curriculum Corporation (1991) according to the types of documents collected, whether policy statements, syllabuses, curriculum guides, professional materials, or curriculum materials. Upon its conclusion, it is to be followed by a sequence of three activities: the preparation of national statements in each curriculum area for teachers and community members; the publication and dissemination of the national statements; and the preparation, trial and publication of assessment profiles of student achievement.

The development of three additional subfiles of curriculum information on the database can be related to this activity. The Aboriginal and Torres Strait Islander Resources (ATSIR) subfile was developed by the Aboriginal and Torres Strait Islander Pedagogy Project, initiated by the National Aboriginal Education Committee and sponsored by the CDC in conjunction with state and territorial Aboriginal education consultative groups. The aim of the project was to investigate, identify and promote teaching and learning approaches, as well as curriculum materials, to support the teaching of students of Aboriginal and Torres Strait Islander ethnicity. The ATSIR subfile, first made available by the Curriculum Corporation in 1991, provides information on resources concerned with both contemporary and traditional aspects of Aboriginal studies. In 1990, the AEC supported a proposal by the Aboriginal Education Advisory Group to survey and evaluate curriculum materials available in Australia for Aboriginal and Torres Strait Islander studies. As coordinator of the project, the South Australia Department of Education contracted the Aboriginal Education Curriculum Unit at Enfield, South Australia, to conduct this project, which was undertaken between July 1990 and October 1990 and subsequently reported by the South Australia Department of Education (1991). The report indicated that the 700 materials, identified in the survey, are characterised by four main attributes: curriculum materials constituted only a modest proportion of the available products; most materials can be used in several grade levels, although few are specifically targeted to the lower and middle primary levels; the materials are available in various media, although few multi-media packages were identified; and the subject matter focused upon contemporary and historical Aboriginal cultures. The report recommended that the findings of the survey be made available to the educational community and publishers in order to promote the development of curriculum materials for Aboriginal studies, that information analyses of the materials be provided in both print and online, and that guidelines be developed for evaluating curriculum materials for Aboriginal studies.

In 1989, the AEC supported a proposal by the Victoria Ministry of Education to survey and evaluate curriculum materials available in Australia for environmental education. The Ballarat Community Education Centre in Victoria was contracted to conduct this project, which was undertaken between December 1989 and May 1990 and subsequently reported by the Victoria Ministry of Education (1990). The report of the survey identified that the available curriculum materials, produced in Australia for environmental education, are characterised by six main attributes: the predominant use of the print medium and neglect of non-print media; the failure to provide adequate materials for the early childhood and lower primary levels; a focus within the subject matter upon the natural environment and resource management to the disadvantage of the social, cultural and economic environment; the failure to provide a cross-curricular emphasis; the lack of appropriate information analyses for users of the available materials; and the need for recognition to be given to the treatment of controversial issues in the materials. The report recommended that information analyses of the materials be provided in both print and online, that a national clearinghouse on environmental education be established by the Curriculum Corporation, and that guidelines be designed by the Curriculum Corporation for publishers to develop appropriate materials for environmental education. In October 1990, the Statewide School Library Support Centre at Prahran, Victoria was contracted by the Curriculum Corporation to index and abstract information on those curriculum materials, from the 765 identified during the survey, for which information was not already available in the database. These records form the Environmental Education subfile

within the database.

Following the presentation by the Asian Studies Council (1988) of a strategy for the study of Asia in Australia, educational authorities implemented a range of programs for language and cultural studies in Australian schools. In March 1990, the Curriculum Corporation invited state educational departments to submit proposals to establish a Studies of Asia Information Service. Following a successful submission, the Tasmania Department of Education and the Arts collected information on curriculum materials available for Asian Studies from teachers of Asian languages, Asian Studies Council project groups, professional associations, and Asian studies and Asian language centres in Australian universities. Staff of the Curriculum Resources Section indexed and abstracted information on those curriculum and professional materials identified during the survey, to form the Asian Studies subfile, which consists of two components: one containing records supporting teaching about Asia; and the other relating to the teaching of Asian languages.

In 1991, the Board of Directors of the Curriculum Corporation agreed to redesign some components of the database inherited from the ASCIS, so that a new Curriculum Information Network (CIN) would support the common curriculum framework. The existing database consists of two files: the Schools Catalogue Information Service (SCIS) file containing 400,000 records; and six sub-files of curriculum-related records, the Curriculum Information Network containing 6,000 records, the Computer Software Review containing 1,000 records, the Australian Studies containing 1,850 records, the Aboriginal and Torres Strait Islanders Resources containing 1,200 records, the Environmental Education containing 700 records, and the Asian Studies and Asian Languages containing 1,300 records. It is proposed that the six sub-files of curriculum-related records, contained in the existing database, will be reordered into new sub-files to form a CIN file, according to whether the subject matter relates to an across-the-curriculum emphasis or to any one of eight curriculum areas. It is proposed that records published in 1988 or later, be reorganised into the new CIN sub-files by the addition of curriculum area identifiers sometime after 1992, and that new abstracting standards be specified for new records and that selected, existing records be reformatted according to the new standards.

As part of the redesign of the ASCIS database, the Curriculum Corporation has initiated an offline search service, entitled the Teachers Curriculum Search and Information Service (TECSIS), for a trial period during 1991 and 1992, which provides customised reports from the ASCIS database for $8.00 plus 20 cents per record, and from the Australian Associated Press database for an additional $8.00 plus 20 cents per record. At present, the database is also accessible online which includes an electronic mail facility and bulletin board, by micrographic application, and catalogue card and related services are provided. Clients can access the online service through the choice of two options; either by payment of an annual subscription of $125.00 plus a fee of $30.00 per hour connect time, or by payment of a fee of $40.00 per hour connect time. The Curriculum Corporation markets records from its database in a series of microfiche collections: the full SCIS records and subject authority for $99.00; the full SCIS records for $85.00; the abbreviated SCIS records and subject authority for $99.00; the SCIS subject authority for $20.00; the six sub-files of curriculum-related records of the Curriculum Information Network, the Computer Software Review, the Australian Studies, the Aboriginal and Torres Strait Islanders Resources, the Environmental Education, and the Asian Studies and Asian Languages for $30.00 each. The Curriculum Corporation also markets ASCIS80, SCIS records as machine readable records on disc for 60 cents per record, catalogue cards for 60 cents per set or with cross-references linking related subjects for 25 cents per card, and ASCISRECON, a computer program for IBM compatible microcomputers, which converts a school library card catalogue to an automated access system, for $110.00 plus 15 cents per record. A selection of 8,135 records from the ASCIS database is also available, together with the Australian Education Index (AEI) provided by the Australian Council for Educational Research, Attorney General's Information System (AGIS) provided by the Attorney General's Department, Australian Public Affairs Information System (APAIS) provided by the National Library of Australia, Australian Architecture Database (ARCH) provided by the North Sydney Municipal Council, AUSPORT provided by the Australian Sports Commission, Australian Criminology Database (CINCH) provided by the Australian Institute of Criminology, EDLINE provided by the Victoria Ministry of Education Library, Australian Family and Society Abstracts (FAMILY) provided by the Australian Institute of Family Studies, Home Economics Index (HEI) provided by Victoria

College Library, LEISURE provided by the Footscray Institute of Technology Library, PINPOINTER provided by the State Library of South Australia, and WESTDOC provided by the Footscray Institute of Technology Library, on one CD-ROM marketed by the Curriculum Corporation and INFORMIT, Royal Melbourne Institute of Technology, GPO Box 2476V, Melbourne, Victoria 3001, as AUSTROM (Australian Social Science, Law and Education Databases on CD-ROM) for an annual subscription of $1,495.00 and at a discounted annual subscription of $745.00 to schools. This product includes updates at four-month intervals, and runs on an IBM compatible microcomputer with a CD-ROM drive.

2
THE RESEARCH DESIGN

2.1 Rationale Statement

The evidence presented in Chapter 1 suggests that the provision of information services for teachers on curriculum products has presented an intractable problem for curriculum planners in the Australian educational context. It is exemplified in the failure of the existing program for exchanging information on educational resources within the Australian educational system to satisfy several standards. First, it is evident that practices, methods and techniques used to provide school library services and curriculum information services have been inadequately integrated within the Australian educational context (Broadbent, 1983). Second, research into the use of curriculum materials in Australian education has not provided useful information on their curriculum role, nor promoted sound decision-making in the selection and implementation of instructional materials (Watt, 1991). Third, the practices, methods and techniques used to analyse curriculum materials do not provide information that relates to the principles of instructional design. Fourth, there is no evidence that people undertaking the provision of information on curriculum materials have been trained in the skills of instructional design analysis. Fifth, the provision of information services have been conducted until recently almost entirely by state departments of education in an uncoordinated way, and recent efforts by national agencies to provide information on curriculum products have lacked adequate funding and continuity. Sixth, there is no documented evidence that the activities of this work have been trialled in the field or have been assimilated successfully within the programs of national or state education agencies (Watt, 1989).

The purpose of this study is to describe programs applied by various information providers in Canada, the United Kingdom, and the United States of America for exchanging various types of information on curriculum products. The researcher examines the attributes of a range of elements common to each program: the development of the program; the processes used to collect, select, analyse and input information into a database; the content and processes used to search a database; and the available products and services provided by the program and their access to clients. The intention in examining these programs is to identify practices, techniques and methods that have been applied successfully within other educational settings. It is anticipated that these practices, techniques and methods could be applied within the context of the redesign of the information service provided by the Curriculum Corporation, so as to redress shortcomings for which solutions have not been provided in the past by Australian curriculum planners.

2.2 Research Plan

A major problem confronting the researcher concerned identifying the processes involved in planning, structuring and implementing information systems, particularly in educational contexts. As a first step, the researcher decided to review texts on this topic. The intention of the review was to identify theoretical models of these processes. This led the researcher to identify that there was sufficient consensus among authors of those texts reviewed concerning the processes, so that a generally acceptable model for developing information systems could be stated. The model can be described as a cycle consisting of six stages: a feasibility study intended to investigate alternative solutions leading to the recommendation of the best solution; an investigation and analysis of the existing system to identify problems and how the proposed alternative solution meets these problems; determining the requirements of the user population by stating objectives, policies and constraints of the prospective system in operational terms; designing the prospective system in terms of selecting computer equipment, determining procedures for using computer equipment, providing program solutions, and implementing organisational changes; implementing the prospective solution by testing it according to one of several approaches, such as a pilot study; and redeveloping the new system, once operational, by reviewing and recycling readjustments or redesigning the system.

It can be identified from the rationale statement that this study focuses upon the conduct of a

feasibility study to identify alternative information systems that can be considered for recommendation as the prospective solution to replace the existing information system. The feasibility study can be separated into four stages: first, organising for the feasibility study when decision-makers select personnel to conduct the feasibility study and specify its parameters; second, searching for a solution by studying the existing information system to determine if there is a need to search for alternative solutions; third, analysing and ranking the feasibility of alternative information systems in terms of economic, organisational, technical and other constraints; and fourth, presenting recommendations for decision-makers to select a solution. The subject matter of this project is largely contained within the second and third stages of the feasibility study. Therefore, an approach was adopted of specifying criteria which would allow the researcher to describe the alternative information systems. The subsequent descriptions involve documenting the processes used in the alternative information systems to collect, analyse, store and disseminate information on curriculum products. It is anticipated that the information presented in these descriptions will provide the scope for economic, organisational, technical and other constraints to be evaluated at a later stage.

2.3 Method

2.3.1 Target Population

The target population for the survey comprised forty-three organisations identified as maintaining information systems on curriculum products, of which seven are located in Canada, seven in the United Kingdom, and twenty-nine in the United States of America. These agencies were identified from a variety of sources. The main source, a directory edited by Morgan (1991), was supplemented by searches in several other directories. A collection of publications obtained by the researcher from a variety of foreign educational agencies also formed a source for identifying other information systems. In addition, several information systems were identified during the course of the data collection process. The agencies identified from these searches of various sources are listed in the Appendix.

The information systems of the organisations that responded to the survey were found to be not comparable once the specified criteria were applied to describe their attributes. The intention here is not to present an analysis of the systems according to these criteria, but instead to propose a typology that would provide the means to classify these diverse information systems, and to select those systems to be analysed in this report. The typology includes three broad categories: first, systems functioning at an operational level in which activities had been reviewed and decisions recycled; second, systems functioning at a formative level in which activities had neither been reviewed nor decisions recycled; and third, systems for which current information is lacking.

Fifteen agencies responded to the survey by providing usable information, and one organisation responded indicating it could not provide usable information. In addition, usable information on another organisation had been provided on previous occasions, and sufficient information was available from other sources to report upon a further organisation. The researcher then classified the seventeen information systems for which usable information was available according to the typology, identifying that the systems of twelve agencies belonged to the first category, the systems of two agencies belonged to the second category, and the systems of three agencies did not provide information on curriculum products. The remaining twenty-seven agencies, which failed to respond to the survey, were defined as belonging to the third category.

2.3.2 Instrumentation

Since an instrument could not be identified for administration to personnel at these agencies, the researcher decided to design an instrument to collect documentation on their information systems. By consulting various texts on the development and implementation of information systems, the researcher was able to identify a range of attributes for which information should be sought. These attributes were organised into an instrument.

The instrument was then modified and revised on several occasions during the processes of

analysing the data from responses to the survey and preparing draft reports. The set of criteria, applied to describe the attributes of each information system, represents the outcome of this process of modification and revision. The criteria are specified in their final form in Chapter 3.

2.3.3 Data Collection Method

A copy of the survey instrument, together with a copy of a pro forma, were mailed during July 1991 to a designated contact person at each of the agencies. The respondents were requested to reply to the survey by the end of August 1991.

In addition, several information systems were identified during the course of the data collection process. These organisations were contacted during the latter part of 1991.

2.3.4 Data Analysis Method

Some time after each respondent's reply was received, the researcher prepared a draft report based upon the information provided. In some cases, it was possible to supplement this with other information from secondary sources. Secondary sources of information included searches for literature identified from the Educational Resources Information Center (ERIC) database, the British Education Index, literature reported in Morgan (1991), and articles contained in two newspapers: *The Times*; and *The New York Times*.

A copy of the draft report was then sent to the respondent for two main reasons. First, it was found necessary to collect additional information because the researcher had failed to specify all requirements in the original instrument. Second, the researcher believed that the contact person should be given an opportunity to verify the accuracy of the draft report. The researcher conducted this activity between September and December of 1991.

2.4 Results

Program descriptions of information systems provided by twelve organisations are presented in the second part of the report. Each of these programs represents an information system functioning at an operational level in which the activities have been reviewed and decisions recycled.

These twelve organisations can be defined as providing information systems of either large or intermediate capacities. Although each organisation provides information services primarily within national boundaries with six organisations based in the U.S.A., four in the U.K., and two in Canada, several of the largest information systems have the capacity to provide services internationally through gateway facilities of electronic information services offered by host organisations, such as DIALOG Information Services and BRS Information Technologies.

The majority of the organisations were established in the late 1960s or 1970s, and have provided electronic information services for periods running between four and twenty-five years. Two services have been discontinued because of lack of funding, namely, the Resources in Computer Education (RICE) database provided by the Northwest Regional Educational Laboratory (NWREL) as part of the MicroSIFT Project, which operated between 1980 and 1990, and MARIS On-Line provided by MARIS On-Line Limited, which ceased operating late in 1991. Furthermore, it is apparent that another three information services have only been continued because they have been acquired and funded by other agencies; both the British Education Index and Canadian Education Index have been operated each by three agencies, and the National Information Center for Educational Media has been operated by two agencies.

The twelve agencies, however, perform a wide range of functions. Although most are education-related organisations, the remainder are companies involved in providing publishing and information management services. The education-related organisations perform a variety of functions: the Council for Exceptional Children (CEC) is a professional association; the Educational Products Information Exchange (EPIE) Institute, the Northwest Regional Educational Laboratory (NWREL), and the Scottish Council for Educational Technology (SCET) are research centres; the

National Center for Research in Vocational Education (NCRVE), the National Educational Resources Information Service (NERIS), and the British Education Index (BEI) at the University of Leeds are clearinghouses located in institutions of higher education; and the Ontario Education Resources Information System (ONTERIS) of the Centre for Curriculum Resources and Technologies, Ontario Ministry of Education, and the Educational Resources Information Center (ERIC) of the Office of Educational Research and Improvement, United States Department of Education are databases operated by education departments. William Dawson Holdings, the owner of the MARIS On-Line Limited, Micromedia Limited, the owner of the Canadian Education Index (CEI), and Access Innovations, Inc., the owner of the National Information Center for Educational Media (NICEM), are publishing or information management companies.

The information services provided by these twelve organisations represent a continuum, when considered from the perspective of the types of products for which information is reported. Three types of curriculum products - curriculum materials, professional materials for classroom use, and professional materials for non-classroom use - are defined in the third chapter. One group of databases, comprising EPIE ON-LINE of the EPIE Institute, MARIS ON-LINE of the MARIS On-Line Limited, NERIS On-Line of the NERIS, A-V Online of the NICEM, RICE of the NWREL, and SEND of the SCET, are oriented to providing information mainly on curriculum materials. The evidence that these services are intended for teachers, teacher-librarians, media specialists, parents, students and community members is substantiated by the greater use in these services of videotex systems, which are designed for non-information professionals and provide for a considerable degree of interaction between the users and the information provider through electronic mail facilities. A second group, comprising RIVE and VECM of the NCRVE, ONTERIS of the Ontario Ministry of Education, and ERIC of the United States Department of Education, provide information on all types of curriculum products. A third group, comprising CEI of Micromedia Limited, and BEI of the University of Leeds, provide information exclusively on professional materials for non-classroom use. The fact that four of these services use online information retrieval systems, which have required traditionally the intervention of professional intermediaries for online searching, suggests that these services are intended to meet the needs of professionals involved in research rather than teachers.

2.5 Discussion

Differences between these twelve information systems in the means used to present services to end-users are also reflected through comparative analyses of two constructs, namely, the various processes used by information providers to input and output information, and the content of the databases. An important consideration in determining the value of applying elements from the twelve information systems to meet the needs of Australian schools lies in identifying the extent to which use is made of electronic information systems in Australian schools. This topic is discussed through a review of research literature.

Various alternatives can be identified from the processes used to input information. Primary documents or materials are collected for analysis in most of these information systems, although secondary sources of information only are referred to for inputting information into the RICE database of the NWREL, the A-V Online database of the NICEM, and the SEND database of the SCET. Most of these information systems have selection policies based upon defined criteria for including or excluding items, although the Ontario Ministry of Education, the NICEM, the NWREL and the SCET include all items within particular categories. The majority of these information systems are based in clearinghouses in which information professionals are employed to abstract and index information, although in two systems, those of the EPIE Institute and the MicroSIFT project of NWREL, teachers are trained and contracted to conduct these activities. The method employed by the EPIE Institute to analyse curriculum materials is of particular note, because it permits qualitative information to be elicited for each of the constructs or elements of the curriculum - the intents, the contents, the teaching-learning methodology, and the means of student assessment - in terms of Tyler's objectives model of curriculum development. Controlled vocabularies are used in each of these information systems for indexing and searching databases, although they vary from simple word lists used in videotex systems to complex thesauri used in online retrieval systems. The most important thesaurus of controlled terminology, the *Thesaurus of ERIC*

Descriptors developed and used in the ERIC system and modified for use in the associated BEI and CEI databases, has also been adapted for use in several other information systems reported in this study.

The content of records in databases is influenced by two main factors: the necessity to store basic information on products in a bibliographic format; and the variation between services offered by online retrieval systems and videotex systems. The majority of the databases in these eleven systems contain records indexing bibliographic citations on products with accompanying abstracts. The abstracts are mainly of the indicative or informative types. It is apparent that online retrieval systems have less capacity to vary from this general pattern than videotex systems. The capability of videotex systems to provide for interaction between the information provider and the users has permitted these systems to capitalise upon the use of electronic mailing facilities and to offer unique services, such as the closed user service of the MARIS On-Line Limited. This capacity for interaction is highlighted in the Integrated Instructional Information Resource (IIIR) provided by the EPIE Institute. The IIIR permits the user to interact data between a set of six subfiles of information on curriculum materials of various media so that elements of different materials are aligned and matched to the user's instructional requirements. Furthermore, the interactive capacity of the videotex system providing the IIIR allows local users to acquire a subset of the IIIR, and add to that subset information on locally developed curriculum resources, teaching strategies, and so forth.

The types of output in products and services from the twelve information systems have been classified according to eleven applications or services: online application by an information retrieval service; online application by a videotex information service; electronic mail application; print journal application; offline search application; magnetic tape application; computer diskette application; micrographic application; optical publishing application; document delivery service; and catalogue card service. The eight applications, which include two forms of online application, are used to output data from the information systems. Micrographic applications, together with document delivery and catalogue card services, are used to provide users with source documents. The respective costs of these technologies correlate to their emergence within the information industry, for instance, recent optical publishing applications such as CD-ROM are considerably more expensive than the other older technologies. Generally, the databases of large capacity offer more service provisions than the databases of intermediate capacity.

Research studies on the use of electronic information systems in Australian schools are not extensive. Johnson and Sharp (1987) reported a two-stage study of the use of electronic information systems in Australian schools by analysing the content of promotional literature and documents, and collecting data from teachers, principals, teacher-librarians and students. The authors recommended from the findings of the study that the services of the ASCIS, bulletin board systems and commercial sponsorships should be extended. Clyde and Kirk (1989) reported a survey by questionnaire of twenty schools, identified as users of electronic information systems, in New South Wales, Queensland, South Australia and Western Australia on the extent, types of services, purposes and curriculum areas in which electronic information systems were being used. Their results indicated that most schools were using more than one service with the number varying from one to five. A ranking of services indicated the following pattern of use from most to least frequent: Telecom Australia's public videotex service, Viatel; the electronic newspaper service, PressCom, of the *Adelaide Advertiser*; the Keylink electronic mail service; the ASCIS online bibliographic database; the electronic newspaper service, QNIS, of Brisbane's *Courier Mail*; and the commercial rural videotex service, Elderlink. In fourteen schools, teachers were able to do their own searching for classroom preparation or professional development, and students were able to do their own searching in nine schools. Electronic information systems were being used in schools for both group and individual uses within a wide range of curriculum areas, including sciences, language arts, computer studies, and business studies. On the basis of the findings of the study, the researchers concluded that electronic information systems have not yet been widely accepted in Australian primary schools, and there is a perception in some schools that electronic information systems are seen as part of computer studies rather than having applications across-the-curriculum.

2.6 Conclusion

This report has presented a developmental study of a range of attributes prevailing in the provision of information on curriculum products to Australian schools. The findings indicate that Australian schools are likely to have a continuing and growing need for information on curriculum products, and that its provision by a national agency is likely to become more cost effective and efficient in the future. The available research also indicates that a proportion of Australian schools actively seek information from electronic databases for various purposes, including curriculum planning. It is concluded, therefore, that an electronic system providing information on curriculum products forms an important service to schools and is identified as a resource by school personnel.

It is projected that the effectiveness and efficiency of the existing information system may be improved by the adoption of selected elements from the information systems described in Part II of the Guide. Recommendations for selecting these elements, however, form part of further research.

3
THE STRUCTURE OF THE GUIDE

3.1 Subject and Scope

The subject of the project, which is intended to encompass the field of work of the Curriculum Corporation, was defined by the researcher as covering the study of information systems providing products and services in curriculum products. Therefore, the parameters of the project were confined to studying three types of curriculum information: first, curriculum materials for classroom use in print, audiovisual, and computer-based media; second, professional materials for classroom use (teacher's guides); and third, professional materials for non-classroom use (books, conference papers and proceedings, dissertations, guides for administrators and support staff, journal articles, viewpoints papers, reference materials, descriptive reports of programs and projects, evaluative reports, research reports, and speeches).

The scope of this report, however, was influenced by the attributes of the population surveyed. The lack of uniformity of the information systems has already been discussed, and a typology has been proposed. It became evident that the number of information systems identified in the survey exceeded the number that could be studied and reported upon efficiently by the researcher. Therefore, the researcher decided to restrict the coverage of information systems described in this report to those included in only the first category, that is, those systems functioning at an operational level in which activities had been reviewed and decisions recycled. The value of describing all the information systems identified during the survey is recognised. The intention is to report descriptions of those information systems constituting the other two categories within a second volume.

3.2 Criteria and Format

Descriptive information reported on each information system in this volume is annotated according to a set of thirty-four criteria grouped into six main categories: program organisation; development; input; holdings; output; and references. The sequence of the criteria is intended to match the sequence of processes involved in maintaining an information service. The criteria are stated and defined below in the form of descriptors.

(i) Agency: The official name of the agency providing the database is given. Important subunits of the agency, or associated agencies, are named in a separate descriptor following details concerning the agency.

(ii) Address: The address of the agency is given.

(iii) Phone; Facsimile: The telephone and facsimile numbers of the agency are given.

(iv) Foundation Date: The date is given when the agency was founded.

(v) Governance and Funding: The policy-making body or bodies governing the activities of the agency, and the sources of funding are described.

(vi) Mission and Program: The educational policy of the agency and its translation of policy into organised activities are described.

PROGRAM ORGANISATION

(vii) Database Title: The name of the database is given.

(viii) Type: The format of records in the database is given. The format is classified according to four types of databases: bibliographic; numeric; catalogue and dictionary; or full-text.

(ix) Language: The language or languages used in records in the database are given.

(x) Structure: A detailed, general overview of the database is described in terms of component files or subfiles. Any specific attributes of the database that relate to curriculum products are identified.

(xi) Scope: The subject emphasis of the database is described.

(xii) Service Established: The date is given when the service was established.

(xiii) Service Provision: The types of information services are listed by which the database is provided. The services are classified into eleven types of provision: online application by an information retrieval service; online application by a videotex information service; electronic mail application; print journal application; offline search application; magnetic tape application; computer diskette application; micrographic application; optical publishing application; document delivery service; and catalogue card service.

DEVELOPMENT

(xiv) Origin: The nature of circumstances responsible for development of the information system are described.

(xv) Trialling and Evaluation Activities: The nature of trials and evaluations of the information system or its components, and the reference groups involved, are described.

(xvi) Resources: The human and material resources required to develop and maintain the information system are described. Human resources are classified according to seven categories: management professional; administrative professional; information professional; technician; sales and marketing; clerical; and other.

(xvii) Training: The training of staff and clients, provided by the agency and host organisation, are described.

(xviii) Prospective Products and Services: New products and services, which are being planned, developed or implemented, are described.

INPUT

(xvix) Sources: The sources of information for input and the types of documents and other products acquired are described.

(xx) Selection Policy: The policy applied to select items for inclusion or exclusion in the database are described.

(xxi) Entry Processes: The processes used to index, abstract, enter and edit information into the database are described.

(xxii) Controlled Terminology: The nature of the controlled terminology used for entry processes is described.

HOLDINGS

(xxiii) Record Numbers: The numbers of records held in the database, files or subfiles of the database, are given according to a specified date.

(xxiv) Updating: The frequency at which the database is updated, and the estimated number of records included in an update, are given.

(xxv) Coverage: The duration covered by records in the database is given.

(xxvi) Search Strategy: The details of searchable fields in the database and the search

procedures are described.

(xxvii) Record Sample: A copy of a sample record for each file or subfile of the database is described.

OUTPUT

(xxviii) Print and Computer-based Products: The print and computer-based products, including details of the means for obtaining online, offline and CD-ROM access, are described.

(xxvix) Publications and Publicising Aids: The details of other publications, user aids, technical manuals or periodicals related to the information system, produced either by the agency or host organisation, are described.

(xxx) Microforms and Source Documents: The form and conditions of access to microforms and source documents are described.

(xxxi) Access: The services, costs and terms of access for clients to the information system are described.

(xxxii) Client Groups: The intended user groups and identified clientele, for whom services are provided, are described.

REFERENCES

(xxxiii) Bibliography: References, cited in the ERIC database, the British Education Index, *The Times*, and *The New York Times*, that relate to the products and services of the agency are documented.

(xxxiv) Contact: The contact person for information, described in the analysis of the database, is named.

Entries in this volume are arranged in alphabetical order according to the agency's name, as outlined in the Contents' page.

Part II

Program Descriptions

1
ACCESS INNOVATIONS, INC.

Agency:
Access Innovations, Inc., National Information Center for Educational Media (NICEM)

Address:
PO Box 40130, Albuquerque, NM 87196, U.S.A.

Phone:
(505) 265 3591

Facsimile:
(505) 256 1080

Foundation Date:
1978

Governance and Funding:
The NICEM is based at the Albuquerque offices of Access Innovations, Inc., an information management company.

Access Innovations, Inc. is funded by revenues from registration fees, and sales of services and products.

Mission and Program:
Access Innovations, Inc. offers a variety of database production and conversion services, creates online catalogues, provides consulting, abstracting and indexing, technical writing and editing, data entry, library and information centre development, records management, library retrospective conversion, computerised information retrieval services, contract personnel, and training programs for the information industry, in addition to managing the NICEM database.

The mission of the NICEM is to provide information on non-print media sources to the educational community in all fields and at all levels. The basis of the services is a computer-readable database, which is used to produce printed catalogues and indexes, as well as a variety of direct computer services.

Access Innovations, Inc. also draws upon the special expertise available at the University of New Mexico and the Albuquerque Training and Vocational Institute to ensure accuracy in categorising and abstracting of the material in the NICEM database.

PROGRAM ORGANISATION
Database Title:
A-V Online

Type:
Bibliographic records contain indexes with descriptive abstracts.

Languages:
English

Materials in other languages are included in the NICEM database.

Structure:
The NICEM database is available in an online version as A-V Online, consisting of a file and a subfile.

(i) A-V Online: Contains records of 16mm motion pictures, videotapes, filmstrips, slide sets, slide-tapes, audiocassettes, overhead transparencies, phonographic records, 8mm film cartridges, interactive video, computer-based training materials, and multimedia materials.

(ii) A-V Online Training Media Database: Contains records of training materials.

Scope:
audio-visual materials

Service Established:
1964

Service Provisions:
The NICEM database is provided by online application through information retrieval services by host organisations, by printed journal application, by offline search application, by optical publishing application, and a catalogue card service is offered by the provider.

DEVELOPMENT
Origin:
In 1958, the University of Southern California began to experiment with punch cards as a means of storing data in the preparation of printouts for the publication of film catalogues. The work was funded, in part, by a United States Office of Education grant to study the feasibility of establishing a centre at the University of Southern California for the cataloguing of non-print instructional materials. Subsequently, a large master file was compiled from the material collected during the project, materials previously collected by the University, and from reports of new materials. As users, producers, and distributors of educational media became aware that the University had a computerised file of information about instructional materials, requests were received for listings of materials in this master file.

This project was named the National Information Center for Educational Media (NICEM). In the early days of the NICEM's operations, individual computer printouts were prepared to meet this demand. However, as the volume of requests built up, this became impractical. Accordingly, the first printed NICEM Indexes were published in 1964 to provide wider, faster and easier access to the data. The NICEM database was first made available online in 1972, and then made available publicly by DIALOG Information Services, Inc. in 1977. In April of 1984, the NICEM database was purchased by Access Innovations, Inc., of Albuquerque, New Mexico. Soon after this acquisition, Access Innovations, Inc. implemented changes to the NICEM database intended to improve its timeliness and usefulness in the areas of record design, controlled vocabulary, coverage and marketing.

Trialling and Evaluation Activities:
Information on trials and evaluations relating to the NICEM database is unavailable.

Resources:
The NICEM is managed by a staff of one management professional, three information professionals, ten technicians, and one sales and marketing. Information on other resources is not available.

Training:
Information on the training of personnel employed by the NICEM is unavailable.

The NICEM provides assistance on an individual basis to users accessing A-V Online and A-V Online Training Media Database by means of a telephone customer service.

Prospective Products:
Information is unavailable on prospective products being developed at present in relation to the NICEM.

INPUT
Sources:
Information contained in the NICEM database is researched by information professionals from catalogues of media publishers and distributors, the Library of Congress catalogue, and the

catalogues of media centres, colleges, universities, and libraries.

Selection Policy:
The selection policy is based upon including all available materials which are educational, informational, documentary, or historical classics.

Entry Processes:
The information professionals at the NICEM catalogue, index, and abstract all records entered into the NICEM database from information specified in source catalogues and other documents. A magnetic tape of the NICEM database is sent to DIALOG Information Services, Inc. and SilverPlatter Information, Inc. on the basis of regular updates.

Editors regularly compare information in the existing database to that in source catalogues, and change elements to reflect the current status of materials.

Controlled Terminology:
The controlled vocabulary consists of a set of specific terms relevant to the audiovisual field with selected terms in curriculum and other areas adopted and added as needed from the *Thesaurus of ERIC Descriptors* and *Books in Print*.

HOLDINGS
Record Numbers:
At January 1991, A-V Online consisted of approximately 350,000 records. The A-V Online Training Media Database consisted of approximately 45,000 records.

Updating:
A-V Online is updated quarterly with an average of 3,000 records. Approximately 20,000 changes and additions are made annually. The CD-ROM version of A-V Online is updated semiannually.

Coverage:
A-V Online covers from 1964 to the present with selective earlier coverage; A-V Online Training Media Database covers from 1975 to the present.

Search Strategy:
The fields on DIALOG in File 46 are classified into two categories: as the basic index; and as additional indexes. The basic index includes all meaningful individual words and character strings from the Abstract, Descriptor, and Title fields. A particular field may be specified using a suffix code and searched by either of two ways: Abstract (/AB); and Title (/TI) by free text; whilst Descriptors (/DE, /DF) are searched by terms selected from the controlled vocabulary. The additional indexes, providing access to all other fields, are specified as prefix codes: Accession Number (AN=), Credit Code (CC=), Credit Name (CN=), Credit State (CS=), Credit City (CY=), Credit Zip Code (CZ=), Distributor Code (DC=), Date Added (DD=), Distributor Name (DN=), Distributor State (DS=), Distributor City (DY=), Distributor Zip Code (DZ=), Grade Level (GL=), LC Card Number Number (LC=), Media Code (MC=), Media Type (MT=), Producer Code (PC=), Producer Name (PN=), Producer State (PS=), Producer City (PC=), Release Date (RD=), Producer Zip Code (PZ=), Subject Code (SC=), Series Name (SN=), and Special Feature (SF=).

Record Sample:

AN,MC 0510096 MEDIA CODE: MV DATE ADDED: 850000
TI Contract for Life - The SADD Story
PC PRODUCER CODE: CBSTV
PN PRODUCER: COLUMBIA BROADCASTING SYSTEM
51 WEST 52ND ST
PT,PS,PZ NEW YORK NY 10019
CC CREDIT CODE: HELIOS
CN CREDIT: HELIOS FILM PRODUCTIONS
CY CHICAGO IL
DC DISTRIBUTOR CODE: CF

DN DISTRIBUTOR: CHURCHILL FILMS
662 N ROBERTSON BLVD
DY,DS,DZ LOS ANGELES CA 90069
PY RELEASE DATE: 1985
MT MEDIA TYPE: 16MM FILM, 3/4 OR 1/2 INCH VIDEO
LENGTH: 32 MINUTES
SF SPECIAL FEATURES: Color
GL GRADE LEVEL: J-C A
AB ABSTRACT: Tells how two members of the same high school hockey team were killed in separate automobile accidents in which liquor was involved. Shows how the boys' coach and friends formed Students Against Drunk Driving, which has several thousand chapters around the United States.
DE DESCRIPTORS: Social - Smoking And Drug And Alcohol - Psychology; Liquor Problem - Sociology; Youth - Sociology
SC SUBJECT CODES: T753400; Z470000; Z900000

OUTPUT

Print and Computer-based Products:

The NICEM database is accessible in print, online, offline and on CD-ROM.

The printed form of the NICEM database is produced in four indexes: *NICEM Film & Video Finder* in three volumes; *NICEM Index to AV Producers & Distributors; NICEM Audiocassette Finder;* and *NICEM Filmstrip and Slide Set Finder*. The indexes are published by Plexus Publishing, Inc., 143 Old Marlton Pike, Medford, NJ 08055, U.S.A.

In 1977, public online access to the NICEM database was provided by DIALOG Information Services, Inc., 3460 Hillview Avenue, Palo Alto, CA 94304, U.S.A. under the database label, A-V Online. The A-V Online Training Media Database is accessible online through the Human Resource Information Network of Executive Telecom System, Inc., College Park North, 9585 Valparaiso Court, Indianapolis, IN 46268, U.S.A.

The NICEM provides offline access to the NICEM database through a telephone search service, which also provides the results of over 200 customised searches conducted for individual institutions.

Access to A-V Online through CD-ROM is available from SilverPlatter Information, Inc., One Newton Executive Park, Newton Lower Falls, MA 02162, U.S.A.

AV Cardware, obtainable from the NICEM, allows records from both the online and CD-ROM versions of A-V Online to be downloaded onto catalogue cards in the AACR-2 format.

Publications and Publicising Aids:

Plexus Publishing, Inc. publishes the four indexes: *NICEM Film & Video Finder; NICEM Index to AV Producers & Distributors; NICEM Audiocassette Finder;* and *NICEM Filmstrip and Slide Set Finder*. Plexus Publishing, Inc. also publishes six back issues dating from 1980: *Index to 8mm Motion Cartridges; Index to Overhead Transparencies; Index to 16mm Educational Films; Index to Educational Videotapes; Index to Producers and Distributors;* and *Index to 35mm Educational Filmstrip*. In addition, Plexus Publishing, Inc. publishes three special publications on topics of current interest: *Science & Computer Literacy Audiovisuals: A Teacher's Source Book ; Vocational & Technical Audiovisuals: A Teacher's Source Book ;* and *Wellness Media: An Audiovisual Source Book for Health and Fitness* .

The NICEM produces an *A-V Online User Guide*, and an *AV Cardware User Manual*.

The NICEM produces a four-page pamphlet, entitled *Your one-stop source for information on AV materials ... The NICEM family of reference titles*, advertising NICEM products and services.

DIALOG Information Services, Inc. publishes a database guide for File 46.

Microforms and Source Documents:
No microforms are produced. Source materials are not held by the NICEM.

Source materials are available from distributors as detailed in records.

Access:
Plexus Publishing, Inc. markets the four indexes and earlier publications: *NICEM Film & Video Finder* for $US 295.00; *NICEM Index to AV Producers & Distributors* for $US 75.00; *NICEM Audiocassette Finder* for $US 95.00; and *NICEM Filmstrip and Slide Set Finder* for $US 225.00; *Index to 8mm Motion Cartridges* for $US 27.00; *Index to Overhead Transparencies* for $US 30.00; *Index to 16mm Educational Films* for $US 120.00; *Index to Educational Videotapes* for $US 148.00; *Index to Producers and Distributors* for $US 75.00; and *Index to 35mm Educational Filmstrip* for $US 160.00. Plexus Publishing, Inc. also markets the *Science & Computer Literacy Audiovisuals: A Teacher's Source Book, Vocational & Technical Audiovisuals: A Teacher's Source Book,* and *Wellness Media: An Audiovisual Source Book for Health and Fitness* for $US 49.95 each.

The NICEM markets the *A-V Online User Guide,* and the *AV Cardware User Manual.* The NICEM also markets AVCardware for use with A-V Online for $US 49.95.

Clients pay a fee of $US 50.00 per hour plus 20 cents per unit to the NICEM for each report from the offline search application.

Clients pay a fee of $US 72.00 per hour plus 20 cents per unit to DIALOG Information Services, Inc. for online access to A-V Online on File 46, and $US 35.00 per hour plus 10 cents per unit to Executive Telecom System, Inc. for online access to A-V Online Training Media Database on the Human Resource Information Network.

DIALOG Information Services, Inc. markets a database guide for no charge.

The CD-ROM version of A-V Online is marketed by SilverPlatter Information, Inc. for an annual subscription of $US 795.00, or for a one-time purchase of $US 1,195.00. This product includes A-V Online on one CD-ROM, semiannual updates, SilverPlatter software, on-disc help screens and database guides, comprehensive printed documentation, toll-free customer support for clients in U.S.A., Canada, U.K. and Germany, and a subscription to *The SilverPlatter Exchange* newsletter. A V Online is available in SilverPlatter's search software for both IBM PC and compatibles (PC SPIRS with hardware requirements of 640K of RAM, a hard disk drive, PC DOS or MS DOS version 3.1 or higher, a CD-ROM drive and controller card, and MS DOS CD-ROM extensions 2.0 or higher), and Apple Macintosh (MacSPIRS with hardware requirements of MacPlus, SE, or II series, two MB RAM, a hard disk drive, system 6.02 or higher, and a CD-ROM drive).

Products and services are available without restrictions.

Client Groups:
The intended users of the NICEM database are specified to be educators, film makers, trainers, coaches, journalists, media specialists, market analysts, communicators, consultants, and other individuals. A user directory of specific client groups using the NICEM database is not maintained.

The NICEM database is used widely in the U.S.A. and Canada, and can be accessed in foreign countries through gateway services offered by DIALOG Information Services, Inc.

REFERENCES
Bibliography:
Johnstone, J.C.
'Second look: AV Online - an early file revitalized'
Database, 8: 2, 55-58 (1985)
ERIC EJ 320 105
Reports on the redesign of the NICEM database, following its acquisition by Access Innovations Inc.

Describes how changes to the record design and index vocabulary enhanced searching of the database.

Slusser, M.G.
'NICEM, the non-print database'
Database, 3: 3, 63-67 (1980)
ERIC EJ 232 598
Describes the origin and development of the NICEM database and provides current information on elements of the database.

Contact:
*Bower, J.
1991 personal communication

*John Bower is the Manager, Editorial Services at the National Information Center for Educational Media (NICEM)

2
COUNCIL FOR EXCEPTIONAL CHILDREN (CEC)

Agency:
Council for Exceptional Children (CEC)

Address:
1920 Association Drive, Reston, VA 22091, U.S.A.

Phone:
(703) 620 3660

Facsimile:
(703) 264 9494

Foundation Date:
1922

Governance and Funding:
The CEC is a professional association with an international membership. Located mainly within the U.S.A. and Canada, the membership is organised into local chapters within each state and province. The CEC membership is also organised into seventeen special interest divisions: Association for the Gifted; CEC Pioneers; Council for Children with Behavioral Disorders; Council for Educational Diagnostic Services; Council of Administrators of Special Education; Children with Communication Disorders; Early Childhood; Learning Disabilities; Research; Visually Handicapped; Career Development; Mental Retardation; Physically Handicapped; Teacher Education; Technology and Media; Culturally and Linguistically Diverse Exceptional Learners; and International Special Education and Services.

The Exceptional Child Education Resources database is funded by the CEC.

Mission and Program:
The mission of the CEC is to provide exceptional students with appropriate educational experiences designed to nurture potential and support achievement. This mission is put into practice through four major aims: to advance the education of exceptional persons by improving access to special education for underserved or inappropriately served populations; to improve the conditions under which professionals work with exceptional persons through the establishment of professional standards of practice and a code of ethics; to improve the quality of instruction provided to exceptional persons by supporting the development and dissemination of new knowledge, technology, curriculum, and materials; and to advance the CEC by enhancing communication with members and other organisations. These aims are accomplished through the programs of four departments: Administrative Services; Communication, which administers the Exceptional Child Education Resources database; Member and Unit Services; and Professional Development.

PROGRAM ORGANISATION

Database Title:
Exceptional Child Education Resources (ECER)

Type:
Bibliographic records contain indexes with descriptive abstracts.

Language:
English

Structure:
The ECER database contains records of books, journal articles, research reports, doctoral dissertations, curriculum guides, curriculum materials, other print materials, and audiovisual materials.

Scope:
educational research and curriculum materials relating to handicapped and gifted children

Service Established:
1966

Service Provisions:
The ECER database is provided by online application through information retrieval services by host organisations, by printed journal application, offline search application, and document delivery services are offered by other organisations.

DEVELOPMENT
Origin:
The CEC Department of Communication was established in 1966 with a grant from the Bureau of Education for the Handicapped, United States Department of Education. The Department of Communication established the ECER database, then known as the Exceptional Child Education Abstracts, in 1966.

Trialling and Evaluation Activities:
Information on trials and evaluations relating to the ECER database is unavailable.

Resources:
The ECER database is staffed by one management professional (editor), four information professionals, and three technicians.

Training:
Information on the training of personnel employed by the Department of Communication is unavailable.

The Department of Communication and the ERIC Clearinghouse on Handicapped and Gifted Children, located at the CEC, provide assistance on an individual basis to users accessing the ECER database by means of a telephone search service.

BRS Information Technologies provides training sessions throughout the United States, Canada, Europe and Australasian region for new, experienced and specialised users. Tailored training courses can be arranged to cater for the needs of individual organisations. One-day introductory and half-day advanced training programs for users of the BRS Search Service are currently available in Australia at Sydney, Melbourne, Canberra, Adelaide, Brisbane, Perth, and Hobart.

Prospective Products and Services:
Information is unavailable on prospective products being developed at present in relation to the ECER database.

INPUT
Sources:
The Department of Communication acquires successive issues of 200 education-related and other journals from publishers and distributors, and employs standing arrangements with particular institutions for documents they produce, a network of professional associations to identify appropriate documents, specific solicitation to individual authors for titles that come to its attention, general solicitation through publicising aids, and unsolicited documents are forwarded by individual authors. Rules and guidelines for acquiring documents and journal articles are specified in Section II of the *ERIC Processing Manual.*

Selection Policy:
Documents selected for inclusion in the ECER database must meet five criteria: appropriateness of content; suitability of format, medium and document type; quality of content; legibility and reproducibility; and availability. The policy covering articles to be included in the ECER database is based upon selection at the journal level. Rules and guidelines for selecting documents and journal

articles are specified in Section III of the *ERIC Processing Manual.*

Entry Processes:
Information professionals catalogue, index and abstract documents with terms from the *Thesaurus of ERIC Descriptors* using rules detailed in Sections V, VI and VII of the *ERIC Processing Manual.*

Controlled Terminology:
Terms from the *Thesaurus of ERIC Descriptors* and *ERIC Identifier Authority List* are used to index records for the ECER database.

HOLDINGS
Record Numbers:
At March 1990, the ECER database comprised approximately 72,000 records.

Updating:
The ECER database increases by approximately 3,000 records annually.

The online services provided by both BRS Information Technologies and DIALOG Information Services, Inc. are updated each month.

Coverage:
The ECER database covers the period from 1966 to the present.

The ECER database duplicates to some extent records included in three other databases: Educational Resources Information Center (ERIC); PsycINFO produced by the American Psychological Association; and Social SciSearch produced by the Institute for Scientific Information. Citations are provided in the print version to records duplicated in the ERIC database, and these records can be excluded for online searching.

Search Strategy:
The fields of the ECER database are searched by particular strategies according to online vendor. On BRS, the fields of the ECER database are searched by two procedures. One group of numeric and non-numeric fields is searched by free text: Accession Number (AN); Update Code (UP); Author (AU); Institutional Source (IN); Title (TI); Source (SO); Sponsoring Agency (SN); Availability (AV); Notes (NT); Year of Publication (YR); Identifier (ID); Abstract (AB); Language (LG); and Geographic Source (GS). Another group of non-numeric fields is searched by terms selected from the controlled vocabulary. Governmental Status (GS) is searched by identifying from three terms: federal, state, or local. Publication Type Code (PT) is searched by the codes specified in the *Thesaurus of ERIC Descriptors*. Descriptors (DE) are searched in the forms of multiword descriptor, as words within a descriptor, as a single word descriptor, as a major subject descriptor (MJ), as a minor subject descriptor (MN), as an unbound multiword major descriptor (UJ), and as an unbound multiword minor descriptor (UN) by terms selected from the *Thesaurus of ERIC Descriptors*.

The fields on DIALOG in File 54 are classified into two categories: as the basic index; and as additional indexes. The basic index includes all assigned descriptors and identifiers plus all meaningful individual words and character strings from the Abstract, Descriptor, Identifier, and Title fields. A particular field may be specified using a suffix code and searched by either of two ways: Abstract (/AB); and Title (/TI) by free text; whilst Descriptors (/DE) are searched in the forms of multiword descriptor, as words within a descriptor, as a single-word descriptor (/DF), as a major subject descriptor (/MAJ), and as a minor subject descriptor (/MIN) by terms selected from the *Thesaurus of ERIC Descriptors*, and Identifiers (/ID) in the forms of a multiword identifier, as words within an identifier, as a single-word identifier (/IF), as a major subject identifier (/MAJ), and as a minor subject identifier (/MIN) by terms selected from the *ERIC Identifier Authority List*. The additional indexes provide access to all other fields, which are specified as prefix codes and searched by free text for Author (AU=), Availability (AV=), Contract Number (CN=), Country of Publication (CP=), Corporate Source (CS=), Journal Announcement (JA=), Journal Name (JN=), Language (LA=), Project Number (PN=), Publication Year (PY=), Report Number (RN=), and Sponsoring Agency (SP=), or by terms selected from the controlled vocabulary for Clearinghouse

Code (CH=) by codes identifying each clearinghouse, Publication Type (DT=) by codes specified in the *Thesaurus of ERIC Descriptors*, and Government Status of Document (GL=) by identifying from three terms: federal, state, or local.

Record Samples:

Journal article (BRS):

AN EC201129. 8805
AU Johnson-Ruth. Mandell-Colleen.
TI A Social Observation Checklist for Preschoolers.
SO Teaching Exceptional Children; v20 n2 p18-21 Winter 1988.
AV UMI.
PT 080; 160; 141.
YR 99.
MJ Disabilities. Check-lists. Maturity-Tests. Social-Development. Student-Evaluation. Mainstreaming.
MN Preschool-Tests. Social-Adjustment. Student-Placement. Interpersonal-Competence. Preschool-Education. Observation.
ID Social Observation for Mainstreamed Environments.
AB The Social Observation for Mainstreamed Environments (SOME) checklist evaluates handicapped preschool children's social skills and readiness for mainstreamed environments. Checklist items represent social behaviors important to successful preschool integration, such as initiating interactions appropriately, obeying class rules, and respecting others' feelings. The SOME's development, testing, format, and use are explained. (JDD).
PG 4P.
LG EN.

Book (BRS):

AN EC201351. 8806.
AU Fradd-Sandra-H. Ed. Tikunoff-William-J. Ed.
TI Bilingual Education and Bilingual Special Education: A Guide for Administrators.
AV College-Hill Press, A Division of Little, Brown and Co., 34 Beacon St., Boston, MA 02108 ($27.00).
PT 010; 055.
YR 87.
MJ Limited-English-Speaking. Bilingual-Education-Programs. Special-Education. Equal-Education. Educational-Administration.
MN Elementary-Secondary-Education. Mainstreaming. Educational-Legislation. Language-Arts. Minority-Groups. Student-Evaluation. Teacher-Supervision. Teaching-Methods. Educational-Needs.
AB This book is written for educational leaders who need information about programs for limited English proficient students. It suggests not a new type of educational administration, but a way of looking at the effective practices which work with all students and of modifying them to meet the needs of students who are in the process of learning English. In Chapter 1, "The Changing Focus of Bilingual Education," Sandra H. Fradd provides the foundation and a rationale for special language instruction programs. In Chapter 2, "Legal Considerations," Sandra H. Fradd and Jose E. Vega describe new federally funded instructional options. In Chapter 3, "Language Development. Academic Learning and Empowering Minority Students," Jim Cummins and Sharon Nichols McNeely discuss the difficulties of establishing effective programs that ensure equitable education for all students. In Chapter 4, "Mediation of Instruction to Obtain Equality of Effectiveness," William J. Tikunoff identifies and operationalizes effective instructional strategies that teachers use to meet student needs.
PG 335P.
LG EN.

Dissertation (BRS):

AN EC201743. ED290281. 8807
AU Avazian-Karyn-Lorraine-Wood

TI The Effects of Learning Disabilities on a Child's Self-Concept.
AV EDRS: mf; hc.
PT 041; 070.
NT Doctoral Research Paper, Biola University.
YR 87.
MJ Learning-Disabilities. Self-Concept. Academic-Achievement. Invention.
MN Elementary-Secondary-Education. Self-Esteem. Knowledge-Level. Parent-Education. Teaching-Methods. Classroom-Techniques. Student-Placement. Mainstreaming.
AB The review of the literature focuses on research assessing the effects of learning disabilities on a child's self concept. After an introduction, definitions of "learning disabilities" and "self concept" are offered. The literature on effects of learning disabilities on self concept in elementary, middle, and high school age children is then reviewed. Self concept and academic achievement in learning disabled children is then considered. A separate section considers treatments for increasing self concept in learning disabled children including the following: providing information about the disability, parent training, hypnotherapy, teaching strategies, classroom strategies, and classroom placement. The research indicates that learning disabled children have lower academic and general self concepts than nondisabled peers with a positive, consistent relationship between academic achievement and self concept. Results of intervention efforts have shown an increase in self concept and/or academic achievement immediately following intervention with a lack of followup data concerning enduring effects. Studies also indicated the optimal placement for learning disabled children to be in the mainstream with adequate special supports; and the children and parents need to have the etiology, clinical manifestations, and possible sequeia of learning disabilities explained to them upon diagnosis. (DB)
PG 38+P.
LG EN.
GS U.S.; California.

(DIALOG)
AN,CH EC210306 ED296537
TI Bringing People Together in the Wilderness: Conjoint Adventure Trips for Special Populations
AU Lais, Greg; Smith, Tom
PY 198-Mar 11+P.
NOTE: Paper presented at the Annual Convention of the Council for Exceptional Children (66th, Washington, DC, March 28-April 1, 1988).
DT DOCUMENT TYPE: 141; 150
CP GEOGRAPHIC SOURCE: U.S.; Wisconsin
AB The article describes a 5-day winter camping expedition experienced conjointly by two groups: one a blend of able-bodied and physically disabled adults, and the second consisting of sexually exploited adolescents who were placed in a group home setting. The first group were members of Wilderness Inquiry II, a community based adventure program that integrates disabled with nondisabled persons, while the second, Fresh Start, is a special living and learning placement for youth who have been sexually abused. Goals of the conjoint adventure included increasing socialization and communication skills, enhancing self-esteem, developing independent living skills among the disabled participants, and reducing negative stereotypes among the able-bodied. Psychological as well as physical preparations for the camping trip are described, as well as specific successes and problems associated with the 5-day expedition. Activities such as crosscountry skiing, snowshoe treks, and night hikes were supplemented by small group sharing, journal writing, and community interaction activities. (JW)
DE DESCRIPTORS: *Disabilities; *Adventure Education; *Normalization (Handicapped); *Interpersonal Competence; *Intergenerational Programs; Daily Living Skills; Socialization; Self Esteem; Interpersonal Communication; Stereotypes; Labeling (of Persons); Adults; Adolescents; Sexual Abuse; Camping; Outdoor Activities

OUTPUT
Print and Computer-based Products:

The ECER database is accessible in print, online and offline.

The printed form of the ECER database is produced in the form of a quarterly journal, *Exceptional Child Education Resources (ECER)*, published by the Council for Exceptional Children.

Public online access to the ECER database is provided by BRS Information Technologies, 8000 Westpark Drive, McLean, VA 22102, U.S.A., and DIALOG Information Services, Inc., 3460 Hillview Avenue, Palo Alto, CA 94304, U.S.A.

The Department of Communication and the ERIC Clearinghouse on Handicapped and Gifted Children provide offline access to the ECER database through a telephone search service.

Publications and Publicising Aids:
The CEC produces the quarterly journal, *Exceptional Child Education Resources (ECER)*, and a one-page information brochure entitled *Exceptional Child Education (ECER) Database*. The Department of Communication publishes three search aids: a four-page information brochure, *Searching ERIC and ECER Disability Descriptors on DIALOG*; a two-page information brochure, *Searching the ERIC and ECER Databases and Eliminating Duplication*, and a *List of Journals Indexed in ECER*.

BRS Information Technologies publishes an aid page and a database guide for the ECER database. DIALOG Information Services, Inc. publishes a database guide for File 54.

Microforms and Source Documents:
No microforms are produced. However, source documents of records duplicated in the ERIC database are available in microform and paper copy through the ERIC system. The full texts of records contained in the ECER database, which show an ERIC ED number and an EDRS availability listing, are available in microfiche and paper copy from the ERIC Document Reproduction Service, Cincinnati Bell Information Systems (CBIS) Federal, 7420 Fullerton Road, Suite 110, Springfield, VA 22153, U.S.A. Citations of documents available from other sources carry information on ordering the document from that source. Journal articles and dissertations that are cited as 'available from UMI' may be ordered from University Microfilms International, Article Clearinghouse, 300 North Zeeb Road, Ann Arbor, MI 48106, U.S.A.

Access:
The CEC markets the journal, *Exceptional Child Education Resources (ECER)*, for an annual subscription of $US 60.00 to CEC members, $US 75.00 to U.S.-based institutions, and $US 80.00 to foreign subscribers. The Department of Communication markets the aids, *Searching ERIC and ECER Disability Descriptors on DIALOG; Searching the ERIC and ECER Databases and Eliminating Duplication*, a *List of Journals Indexed in ECER* for no charge.

Clients pay a fee of $US 45.00 (regular and institutional rates) or $US 35.00 (CEC members) to the Department of Communication for each report of 1-50 records with additional records at $US 7.50 per 25 from the offline search application.

Clients pay a fee of $US 45.00 per hour plus 25 cents per unit to DIALOG Information Services, Inc. for online access to the ECER database on File 54. Clients pay a fee of $US 45.00 per hour plus 20 cents per unit to BRS Information Technologies for online access to the ECER database on BRS Search Service. BRS Information Technologies also provides an SDI (or Current Awareness) service for the ECER database. The ECER database is available on three BRS products: within BRS/Search Service on BRS/Educator, a specially priced plan available exclusively for professionals working in educational settings and BRS/Instructor, designed to enhance the teaching of online searching techniques; on BRS Colleague providing access to the world of biomedical literature and information; and on BRS/After Dark providing BRS/Search Service at reduced rates for evening and weekend use. BRS Information Technologies also provides discounts for high-volume users in the form of three advance purchase plans: open access; annual commitment by advance purchase; and annual commitment by monthly installment.

BRS Information Technologies markets an aid page for no charge and a database guide for $US 7.50. DIALOG Information Services, Inc. markets a database guide for no charge.

The ERIC Document Reproduction Service markets each microfiche, covering from 1 to 96 pages of a document from the ECER database, for $US 0.25. The ERIC Document Reproduction Service, University Microfilms International, and the Institute for Scientific Information market paper copies of RIE documents and CIJE articles for $US 3.12 for every 25 pages.

Client Groups:
The intended users of the ECER database are specified to be teachers, administrators, researchers, teacher educators, psychologists, and others concerned with issues related to disabilities and giftedness.

The ECER database is used widely in the U.S.A. and Canada, and can be accessed in foreign countries through gateway services offered by DIALOG Information Services, Inc. and BRS Information Technologies.

REFERENCES

Bibliography:

Harper, L.G.
'ECER on BRS'
Database, 2: 2, 37-43 (1979)
ERIC EJ 205 195
Describes the ECER database as an online service provided by BRS Information Technologies.

Hirsch, S.
'ERIC and ECER'
Online Review, 11: 5, 315-321 (1987)
ERIC EJ 363 846
Describes the activities of the ERIC Clearinghouse on Handicapped and Gifted Children, and the Council for Exceptional Children in producing the ECER database.

Contact:

*McLane, K.
1992 personal communication

*Kathleen McLane is the Managing Editor of the Exceptional Child Education Resources (ECER).

3

EDUCATIONAL PRODUCTS INFORMATION EXCHANGE (EPIE) INSTITUTE

Agency:
Educational Products Information Exchange (EPIE) Institute

Address:
Executive Offices, PO Box 839, Water Mill, NY 11976, U.S.A.

Phone:
(516) 283 4922

Foundation Date:
1967

Other Agencies:
Development and Research Office, Teachers College, Columbia University, PO Box 27, New York, NY 10027, U.S.A.; Phone: (212) 678 3340

Software Evaluations Office, The Palmer School, Library Building, C.W. Post Campus, Long Island University, Brookville, NY 11548, U.S.A.; Phone: (516) 621 5950

Northeastern Projects Office, PO Box 246, Dresden, Maine 04342, U.S.A.; (207) 737 8594

Midwestern Projects Office, 141 North Merrimac Avenue, Suite 307, Clayton, MI 63105, U.S.A.; Phone: (314) 434 1780

Western Projects Office, PO Box 786, Kenwood, CA 95452, U.S.A.; Phone: (707) 833 4621

Between 1978 and 1983, the British Columbia Ministry of Education, Alberta Education and Manitoba Education were subscribers to the EPIE Institute. In January 1983, these three departments of education collaborated to form a consortium, the Canadian Exchange for Instructional Materials Analysis (CEIMA), which has adapted methods, practices and techniques derived from the EPIE Institute.

Governance and Funding:
Provisionally chartered in 1967, and permanently in 1975, by the University of the State of New York, the EPIE Institute is governed by a Board of Trustees, and supported by a National Advisory Board.

The EPIE Institute is a non-profit, consumer-supported agency funded by membership subscriptions, revenues from registration fees and sales of services, products and publications, and occasional nonrestrictive grants from private foundations and public agencies. In 1983, the EPIE Institute adopted the policy of signing contracts with state departments of education in the U.S.A. to provide services to all schools statewide.

Mission and Program:
The mission of the EPIE Institute is to provide consumer protection for students and teachers by exchanging information on educational products in all fields and at all levels. This mission is accomplished through five major activities: providing a consumer protection exchange through its newsletter services; conducting research into the use of instructional materials; collecting, analysing and disseminating information on textbooks, microcomputer courseware and hardware, audiovisual equipment, video products, educational films, and multimedia systems; providing a curriculum alignment service; and providing teacher development activities including training workshops in the selection and evaluation of textbooks and microcomputer courseware, and in curriculum alignment.

In 1983, the EPIE Institute premiered a monthly television series, Educational Computing Profile, produced by Kentucky Educational Television and distributed throughout the U.S.A. by the Corporation for Public Broadcasting.

PROGRAM ORGANISATION
Database Title:
EPIE ON-LINE

Types:
The EPIE-CU Micro Courseware-Hardware PRO/FILES file contains bibliographic records with evaluative abstracts. The Educational Software Selector (TESS) file, and the Parents' Guide to Highly Rated Educational Software file contain indexes with descriptive abstracts and citations to evaluative ratings. The IIIR file consists of records containing numeric codes derived from a common set of descriptors (IIIR Curriculum Descriptors). The EPIEgram file is available in full text form, and includes directory information.

Language:
English

Structure:
The EPIE ON-LINE database is available in an online version in seven files.

(i) EPIE-CU Micro Courseware-Hardware PRO/FILES: Contains the summaries from the full-text analyses of microcomputer courseware and hardware excerpted from the print versions of the EPIE Micro-Courseware PRO/FILES and EPIE Hardware PRO/FILES.

(ii) The Educational Software Selector (TESS): Contains an online version of the TESS.

(iii) Parents' Guide to Highly Rated Educational Software: Contains an online version of the Parents' Guide to Highly Rated Educational Software.

(iv) Integrated Instructional Information Resource (IIIR): Contains information integrated from the PRO/FILES and other sources, which has been analysed for subject matter content, learning activities, and cognitive processes according to a broad range of curriculum descriptors and arranged into six subfiles: textbooks; software; video and films; non-textbook print materials; other supplementary materials; and norm- and criterion-referenced tests.

(v) EPIEgram: Contains full-text versions of three serials: EPIEgram Materials; EPIEgram Equipment; and MICROgram.

(vi) EPIE FORUM: Contains an electronic mail facility for EPIE ON-LINE users.

(vii) User Guide: Contains a user's guide to the EPIE ON-LINE database.

The TESS, the EPIE-CU Micro Courseware-Hardware PRO/FILES, and the Parents' Guide to Highly Rated Educational Software files contain information on microcomputer courseware and hardware for classroom and administrative use; and the IIIR file contains cross-referenced information on concepts contained within the content of instructional materials of various media that can be matched to specified curriculum objectives.

Scope:
instructional materials and educational equipment, including textbooks, microcomputer courseware and hardware, audiovisual equipment, video products, educational films, and multimedia systems

Service Established:
1984

Service Provision:

The EPIE ON-LINE database is provided by online application through a modified videotex information service by a host organisation, by electronic mail application, and by printed journal application.

The videotex system is capable of allowing local educators to acquire a subset of the IIIR file, and add to that subset information on locally-developed curriculum resources, teaching strategies, lesson plans, and so forth.

DEVELOPMENT

Origin:

Although formerly operating as a division of the Institute of Educational Development, the EPIE Institute was established as an independent agency in August 1967 with a foundation grant of $US 100,000 provided by the United States Office of Education. Between 1967 and 1971, the EPIE Institute identified that 99% of 200,000 instructional materials catalogued were not being revised on the basis of feedback gathered from learners. In 1971, the EPIE Institute testified to this effect at hearings of the Select Subcommittee on Education of the Committee of Education of the House of Representatives held to define the role for the proposed National Institute of Education (Komoski, 1971a; Komoski, 1971b). Between 1972 and 1977, the EPIE Institute supported legislative efforts in California and Florida to enact requirements for learner verification and revision, formed a National Learner Verification and Revision Task Force in 1974 to specify guidelines, and supported the development of model legislation in Virginia, Michigan, and Maryland (Educational Products Information Exchange Institute, 1980). During 1974 and 1975, the EPIE Institute conducted the National Survey and Assessment on Instructional Materials (NSAIM), in which data were gathered from a nationally stratified sample of more than 12,000 teachers. It was found that instructional materials were used between 90% and 95% of instructional time, which included the use of textbooks for 70% of instructional time (Educational Products Information Exchange Institute, 1977). These early research studies provided significant evidence upon which the EPIE Institute based its subsequent program, aimed at improving the quality of educational products.

Working with the Office of Evaluation Research at the University of Illinois at Chicago Circle between 1970 and 1972, the EPIE Institute conducted a project to evaluate instructional materials, in which an instrument was developed and trialled by Maurice Eash, the director of the Office of Evaluation Research. This instrument was then adopted by the EPIE Institute as a prototype for instruments it subsequently designed to be used for analysing educational products. Based upon Ralph Tyler's objectives model of curriculum development, these instruments provide the scope to analyse instructional materials in terms of four basic elements of instructional design: the intents; the contents; the teaching-learning methodology; and the means for student assessment.

Beginning during the early 1970s, the EPIE Institute reported instructional design analyses of printed instructional materials and audiovisual materials in EPIE Materials Reports, and analyses of educational equipment in EPIE Equipment Reports. The EPIE PRO/FILES system was developed between 1977 and 1981 by the Western Projects Office as a means of continually updating the printed EPIE Reports. Funded by a grant from the Exxon Foundation, the EPIE Institute and the Microcomputer Center at Teachers College, Columbia University collaborated to develop the Micro-Courseware PRO/FILES during 1981. This work was continued during 1982 and 1983 by the EPIE Institute and the Consumers Union of the U.S., and extended with the Microcomputer Hardware PRO/FILES with additional funding provided by the Ford Foundation, the Carnegie Foundation and the Richard Lounsbury Foundation.

With funding provided in 1985 by the Ford Foundation, the Carnegie Foundation and the Richard Lounsbury Foundation and with support from the Council of Chief State School Officers, the EPIE Institute developed a database, the Integrated Instructional Information Resource (IIIR), as a means of integrating the various EPIE PRO/FILES with the intention that the IIIR forms a resource for curriculum planning, alignment, and management. By adapting the process of curriculum alignment developed by the Southwest Regional Laboratory for Educational Research and Development (SWRL) and the Los Angeles Unified School District in 1979, the EPIE Institute applied the IIIR to provide the Curriculum Alignment Services for Educators (CASE) as a nation-wide service for K-8 mathematics during 1986. Other curriculum areas have been added to the

service, so that the CASE became fully operational in 1990 by covering mathematics, science, language arts, reading and social studies (Komoski, 1987).

Trialling and Evaluation Activities:
Two pilot studies were conducted concurrently between 1968 and 1970. The first, the Four-State Cooperative Project was conducted during 1968 in New York State, Pennsylvania, New Jersey and Delaware to pilot-test the types and modes of the EPIE Institute's services. The second, Pilot EPIE was conducted between 1968 and 1970 to field-test the information system designed for the EPIE Institute.

The IIIR and the CASE were trialled late in 1985 within local school districts of cooperating state departments of education in the U.S.A.

Resources:
The EPIE Institute is staffed by five management professionals, one information professional, two technicians, one sales and marketing, and four clerical. In addition, supplementary staffing for specific projects is provided to the EPIE Institute by consultants from a broad range of cooperating educational organisations throughout the U.S.A.

The EPIE Institute also uses a network of trained analysts in cooperating schools and other educational institutions throughout the U.S.A. to provide analyses of educational products.

Training:
Prospective analysts employed by the EPIE Institute are required to complete successfully a training and certification program. This program comprises training in the use of the evaluative instruments the EPIE Institute uses through practicing their application on a number of products. Once trained, prospective analysts may apply for 'certification'; each must complete an analysis of a designated product which is then compared to a 'model' analysis by a three-person evaluator certification committee.

Since 1973, the EPIE Institute has also provided workshops and other professional development activities to train teachers to select and evaluate instructional materials.

The EPIE Institute has developed various training materials for these purposes. These include the Packaged Training Workshop in Instructional Materials Selection developed between 1978 and 1979, a set of ten modules developed and field-tested in New York schools during the Teacher Information Exchange (TIE) project which ran between 1980 and 1982, and more recently the *Curriculum/Content/Evaluation Correlation Module* for training in relation to the IIIR and the curriculum alignment service.

Prospective Products and Services:
No prospective products are being developed at present in relation to the EPIE ON-LINE database.

INPUT
Sources:
Materials and equipment are collected from commercial publishers, state departments of education, other educational organisations, teachers, and media specialists throughout the U.S.A.

Selection Policy:
The selection policy applied by the EPIE Institute is based upon comprehensive coverage of materials within particular areas. Various criteria are used to prescreen comprehensive categories of materials and equipment for inclusion or exclusion.

Entry Processes:
Each material is analysed independently by two certificated analysts using the appropriate EPIE instrument. An experienced, former analyst synthesises the resulting analysis into prose form by monitoring the accuracy and reliability of judgments. Finally, an editor (a former analyst and synthesiser) edits the analysis. The final report is then printed, or coded with IIIR Curriculum

Descriptors and entered into the IIIR file in the EPIE ON-LINE database.

Controlled Terminology:
The controlled vocabulary consists of a set of concept-referenced descriptors (IIIR Curriculum Descriptors) specified as numeric codes in the IIIR file. The controlled vocabulary is used to code concepts specified to clients' customised requirements, in clients' curriculum guides, in clients' instructional materials, and in instructional materials analysed by EPIE analysts.

The IIIR Curriculum Descriptors are continuously reviewed and expanded by curriculum advisory panels.

HOLDINGS
Record Numbers:
The data contained in the EPIE ON-LINE database cannot be specified as bibliographic records.

Updating:
The EPIE ON-LINE database is updated twice a month.

Coverage:
The EPIE ON-LINE database covers from 1980 to the present.

Search Strategy:
The files of the EPIE ON-LINE database are searched through the standard procedure for videotex systems by selecting option numbers displayed on a series of progressively specific menus. The TESS file can be searched alternatively by courseware, software suppliers, administrative software, instructions, or abbreviations. Searching by courseware, software suppliers, or administrative software is refined by keywords.

The EPIE Institute employs curriculum consultants to coordinate the CASE. Initially, a consultant provides a prospective client with introductory information on the CASE and the IIIR. Those prospective clients wishing to proceed with a search of the IIIR are provided with information intended to focus the requirements for the search upon three aspects: matching the content and process topics stated in the school's curriculum guide with tests, textbooks and supplementary materials being used in the school; relating the topics in which students are performing poorly to specific content and process topics; and using these to identify components of available materials that need to be re-examined. The consultant and the clients are then able to specify and code particular topics with the IIIR Curriculum Descriptors for searching the IIIR.

An example of a search of the IIIR file is demonstrated in the CASE study provided to the Chino school district in California, reproduced below as a Record Sample. The study focused upon a problem of alignment at the sixth grade level. The procedures for using the IIIR file to solve this problem are presented as a sequence of seven steps: first, the Chino school district's mathematics objectives, coded with IIIR Curriculum Descriptors, are entered into the IIIR file; second, information on two resources (the Addison Wesley Mathematics textbook, and the Stanford Achievement Test) being used in the Chino school district's mathematics program is entered into the IIIR file; third, ten topics that the Chino school district identified as critical for improvement of student performance are coded with IIIR Curriculum Descriptors and entered into the IIIR file; fourth, data from a search of the IIIR file are displayed as a three-column table with the columns showing the percentage of attention paid to each topic in the Chino mathematics curriculum guide, the Addison Wesley mathematics textbook, and the Stanford Achievement Test; fifth, topics are identified that are inadequately covered by the textbook and the test in light of the attention paid to those topics in the Chino mathematics curriculum guide; sixth, a search of the IIIR file is undertaken to identify specific resources (software) that compensate for the topics inadequately covered in the existing textbook; and finally, one of the identified resources is selected for display of detailed descriptive information from the IIIR file.

Record Samples:
The Educational Software Selector (TESS)

NK 9) K - 8 MATH PROGRAM VOL. 1 Cat. 26 - 1715

Types: Rote drill, skills practice. Grades: Kinder. - 8

Uses: School; for main-line curric., remedial.

Scope: Mult. topics, mult. years Grouping: Indiv.

Description: Practice on four basic arithmetic operations. Has diagnostic and mastery testing. Average lesson is 15 minutes. Not copy protected, not list protected. Network version available.

Configuration/Price:

1. Radio Shack TRS - 80 Mod I/III/IV, 48K, 5 - in. floppy disk dr., Disk BASIC, TRSDOS; on disk $199.
2. Radio Shack Color Computer, 16K, cass. recorder, tape $199, on disk $199.
3. Radio Shack TRS - 80 Mod I/III/IV, 16K, cass. recorder, BASIC; on tape $199.

Components: 10 prog's, 5 cassettes/4 diskettes, 2 workbooks.

Availability: Radio Shack

*Reviews: EPIE 03/81 (+); EL 9/82 (+)

User Site: For names, contact Dr. Lee Droegemueller, Univ. of Arizona Tel: 602/626-5955

TESS cites under the field, Reviews, information on reviews of computer courseware published by fourteen sources: *Booklist*, published by the American Library Association, 50 Huron Street, Chicago, IL 60611, U.S.A.; *Classroom Computer Learning*, published by Pitman Learning, Inc., 19 Davis Drive, Belmont, CA 94002, U.S.A.; *Curriculum Review*, 517 South Jefferson Street, Chicago, IL 60607, U.S.A.; *Courseware Report Card*, 150 West Carob Street, Compton, CA 90220, U.S.A.; *Electronic Learning*, 902 Sylvan Avenue, Englewood Cliffs, NJ 07632, U.S.A.; *EPIE Micro-Courseware PRO/FILES*, published by the EPIE Institute, PO Box 839, Water Mill, NY 11976; *Educational Technology*, 140 Sylvan Avenue, Englewood Cliffs, NJ 07632, U.S.A.; *Foreign Language Teaching Programs: A Volume of Reviews*, published by the Department of Language and Literature, University of Delaware, Newark, DE 19711, U.S.A.; *Infoworld*, 375 Cochituate Road, Framingham, MA 01701, U.S.A.; MicroSIFT, Northwest Regional Educational Laboratory, 101 S.W. Main Street, Suite 500, Portland, OR 97204, U.S.A.; *Users*, published by the Minnesota Educational Computing Consortium, 3490 Lexington Avenue N., St. Paul, MN 55126, U.S.A.; SECTOR Project, Utah State University, Logan, UT 84322, U.S.A.; *School MicroWare Reviews*, PO Box 246, Dresden, ME 04342, U.S.A.; *The Computing Teacher*, published by the Department of Computer and Information Science, University of Oregon, Eugene, OR 97403, U.S.A.

EPIE-CU Micro-Courseware PRO/FILE:
Mathematics
Fractions 1 Scott, Foresman
HARDWARE CONFIGURATION
Texas Instruments 99/4A 16K Speech Synthesizer (optional)
COMPONENTS
1 ROM Module, 24-page Teacher's Guide
6 Reproducible Worksheets
PRODUCER
Scott, Foresman and Company
1900 East Lake Avenue
Glenview, IL 60025
312-729-3000
CURRICULUM ROLE
Mathematics
Supplemental
Tutorial
Drill & Practice
COPYRIGHT
1983
AUTHOR
Thomas P. Hartsig
USERS SPECIFIED BY PRODUCER
Grades 3-5/6
Enrichment in grade 3
Practice in grade 3
Remediation in grades 5/6
Individuals
CONTENT TOPICS
Meaning of Fractions
Identifying fractions
Writing and illustrating fractions
Writing equivalent fractions
Writing and illustrating mixed number
OVERALL RATING OF INSTRUCTIONAL DESIGN 8/10
OVERALL RATING OF SOFTWARE DESIGN 7/10
ANALYST'S SUMMARY

FRACTIONS 1 provides students in grades 3 to 5 with a successful combination of instruction in and practice with fractions and mixed numbers. The program features understandable written explanations and easy-to-interpret, motivating, graphic demonstrations of the mathematical concepts. The student controls when to receive instruction and when to attempt practice problems. When in a practice section of a lesson, the student receives additional practice, is branched to valuable remediation, or is branched forward to the next activity depending on performance. Because of this, the program is highly appropriate for heterogeneous classrooms. All of the tutorial content is helpful, but students who tested the program required more teacher assistance with the lessons on the more difficult concepts of equivalent fractions and mixed numbers (Lessons 3-5) than they did with lessons on simple fractions (Lessons 1-2). Accordingly, Lessons 3-5 will require more pre-teaching. Fortunately, such preparation is made easy by the Teacher's Guide, which describes the content completely.

In Lessons 1-5, the child can choose to see "teaching examples" or begin "practice exercises". The teaching examples explain and graphically demonstrate the skill for that activity. For example, in Lesson 1, a rectangle partitioned into six parts appears along with the numeral "6". Two of the parts are then shaded in as the numeral "2" comes on the screen. The numeral "2" moves above the numeral "6", and arrows point to the numerals as numerator and denominator. One sentence reads "2/6 is shaded", and another reads "Two sixths is shaded". Students can see as many examples as they want. The practice problems that follow the "tutorials" present graphic representations of fractions or mixed numbers and require the child to enter the numerator, denominator, fraction, or mixed number. After two incorrect responses, the student sees a step-by-step demonstration of how to figure out the correct answer. The program sends the child back to the teaching example if the core is less than 60 percent, presents more practice problems if the student scores 60 to 79 percent, and branches to the next lesson if the score is 80 percent or above. As a review, Lesson 6 provides 30 items similar to those in lessons 1-5, except that students have only one chance to answer. Unfortunately, the report of the child's performance on the quiz cannot be printed out or stored on diskette. A reproducible record sheet is provided.

RECOMMENDATIONS TO THE PRODUCER

1. Go into more depth when explaining equivalent fractions and mixed numbers.
2. Enable a record of student performance to be printed or stored.
3. Provide suggestions for integrating activities into math curriculum.

INSTRUCTIONAL & SOFTWARE DESIGN

Goals & Objectives

*Goals and objectives are well supported by content, though Lessons 3-5 may require more teacher intervention.

Developer's Rationale

"This module supplements skills taught in grades three through five and may be used to introduce, reinforce, or enrich basic fraction concepts".

Development Evidence

None.

Learner Objectives

Five objectives are stated in Teacher's Guide.

EXAMPLES

Lesson 1: "Identify what fraction of a whole is shaded".

Partitioned shape is shown, and student must determine how many sections of it are shaded.

Lesson 3: "Give equal fractions for a pictorial situation".

Student sees the numeric and graphic versions of 2 equivalent fractions and must fill in the missing number from 1 of the numeric fractions.

Lesson 4: "Give the mixed number for each picture".

Student sees all objects of a set shaded completely except the last object, which is partially shaded, and must enter the mixed number.

Contents

*5 lessons containing tutorial and drill sections; 1 review lesson.

User Appropriateness

Lessons 3-5 (equivalent fractions and mixed numbers) are better suited to grades 4 -5 and will require more pre-teaching than Lessons 1 - 2.

Approach and graphics are motivating; scope is appropriate, and explanations progress logically.

Accuracy and Fairness
No errors of fact noted; female and Hispanic names used.
Clarity
Explanations and directions are clear and concise.
Good use of examples and demonstrations.
Support Materials
Student record form, class record form, 4 worksheets, and answer page are included in Teacher's Guide; all are reproducible.
Methods & Approach
*Content is enhanced by high user control, motivating features, and the combination of tutorial and practice.
Technical Quality/Warranty
No technical problems noted.
90-day free replacement warranty.
Documentation/Teacher's Guide
Well-written Guide contains sections on introducing the computer and classroom management, and includes clear discussion of program contents; does not address integration into the curriculum.
User Control
Menu lists 6 lessons; student can select tutorial or practice, review previous explanations, change answers, and exit at will; cannot control rate of graphic demonstrations.
Feedback
Immediate; demonstrates procedure graphically after second incorrect response (e.g., counting shaded parts and moving numeral to correct position).
EXAMPLES
Correct: "Super"; graphic horn plays tune.
Incorrect: small "X" over answer; "Try Again"; demonstration after second error.
Graphics
Depictions of shaded rectangles, birds, cars, etc. demonstrate concepts.
Audio
Optional speech synthesizer "speaks" some directions and feedback messages; beeps wrong answers, melody for correct answer; can be lowered or turned off via monitor.
Random Generation
Used to present activities and feedback.
Evaluation & Management
*Review lesson and worksheets provide a means of evaluating whether program objectives have been met; scores indicate general progress but do not provide information on specific errors.
Tests
Worksheets and randomly generated review lesson can serve as pre- and post-tests.
Branching
Program branches a student back to step-by-step tutorial if lesson score is less than 60%; if score is 60 - 79%, more practice problems are presented, at 80% or above, program branches student to next lesson.
Records/Management
Scores reported at the end of a lesson indicate number correct out of number attempted.
No computerized management system; records are not stored for review and cannot be printed out.
Scores can be recorded on student and class record forms.

Integrated Instructional Information Resource (IIIR)
Welcome to: Integrated Instructional Information Resource (IIIR)
MATHEMATICS K - 8
1. Compare resources
2. Search by topic for resources
3. List resources
4. List topics
5. Set up
6. Help using IIIR
Enter your Choice ... 1
COMPARE RESOURCES

Enter resource name and number
*Chino Curriculum Guide
<<< SERIES >>>
1. 1985 CHINO, CALIF MATH CURRICULUM
Enter menu number ... 1
<<< MATERIAL >>>
1. CHINO, CALIF MATH CURRICULUM (specific to grade 6)
Enter menu number ... 1
Do you want all topics correlated to this resource included? ... No
Enter resource name, number or Done ...
*Addison Wesley
<<< SERIES >>>
1. 1983 MATHEMATICS IN OUR WORLD
2. 1985 ADDISON WESLEY MATHEMATICS
Enter menu number ... 2
<<< MATERIAL >>>
1. ADDISON WESLEY MATHEMATICS (specific to grade 1)
2. ADDISON WESLEY MATHEMATICS (specific to grade 2)
3. ADDISON WESLEY MATHEMATICS (specific to grade 3)
4. ADDISON WESLEY MATHEMATICS (specific to grade 4)
5. ADDISON WESLEY MATHEMATICS (specific to grade 5)
6. ADDISON WESLEY MATHEMATICS (specific to grade 6)
7. ADDISON WESLEY MATHEMATICS (specific to grade 7)
8. ADDISON WESLEY MATHEMATICS (specific to grade 8)
9. ADDISON WESLEY MATHEMATICS (specific to grade K)
Enter menu number ... 6
Do you want all topics correlated to this material to be included? ... No
Enter resource name, number, or Done ...
*Stanford Achievement Test
<<< SERIES >>>
1. 1982 STANFORD ACHIEVEMENT TEST
Enter menu number ... 1
<<< MATERIAL >>>
1. STANFORD ACH TEST, INTERMED 1, FORM E, GR 4.5 - 5.9
2. STANFORD ACH TEST, INTERMED 2, FORM E, GR 5.5 - 7.9
3. STANFORD ACH TEST, LEVEL 1, FORM E, GR K.0 - K.9
4. STANFORD ACH TEST, LEVEL 2, FORM E, GR K.5 - 1.9
5. STANFORD ACH TEST, PRIMARY 1, FORM E, GR 1.5 - 2.9
6. STANFORD ACH TEST, PRIMARY 2, FORM E, GR 2.5 - 3.9
7. STANFORD ACH TEST, PRIMARY 3, FORM E, GR 3.5 - 4.9
Enter menu number ... 2
Do you want all topics correlated to this material to be included? ... No
Enter resource name, number, or Done ...
*Done
Please choose the topics you would like to correlate, enter a return after each topic number, enter a blank line when complete ...
1640
3020
6110
6740
7100
6000
3410
3510
6470
8600
There are 10 topics selected for this report.
Would you like your printer turned on?

*Yes
Date: 02/18/86

COMPARISON REPORT BY TOPIC

DESCRIPTIONS OF TOPICS SELECTED

1640 PRIME FACTORIZATION: WHOLE NUMBERS
3020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS (DENOMINATORS POWERS OF TEN)
6110 COMPUTATION: MULTIPLICATION OF DECIMALS
6740 COMPUTATION: DIVISION OF DECIMALS
7100 RATIO (SEE 07440)
6000 PERCENT DEVELOPED THROUGH USE OF RATIOS
3410 ESTIMATION: SOLUTIONS IN COMPUTATION
3510 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
6470 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
8600 OPERATIONS AND CONVERSIONS WITHIN A SYSTEM OF MEASUREMENT RELATED TO DENOMINATE NUMBERS

Column	Grade	
1.	6	(1985) CHINO, CALIF MATH CURRICULUM, CHINO S.D., CALIF (CURR GUIDE)
2.	6	(1985) ADDISON WESLEY MATHEMATICS, ADDISON WESLEY
3.		(1982) STANFORD ACH TEST, INTERMED 2, FORM E, GR 5.5 - 7.9

... Number of occurrences of this topic in the material.
% ... Number of occurrences of this topic in the material.

	Column #1		Column #2		Column #3	
	#	%	#	%	#	%
01640	1	1.9	0	.0	0	.0
03020	2	3.8	0	.0	1	.8
03410	1	1.9	4	1.0	0	.0
03510	1	1.9	6	1.5	0	.0
06000	1	1.9	4	1.0	0	.0
06110	2	3.8	0	.0	0	.0
06470	1	1.9	9	2.3	3	2.5
06740	3	5.8	0	.0	0	.0
07100	1	1.9	0	.0	1	.8
08600	6	11.5	9	2.3	1	.8
Topics covered:		10		5		4
Total occurrences:		19		32		6

The following topic(s) may be "weak"
In column 2:
1640 PRIME FACTORIZATION: WHOLE NUMBERS
3020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS (DENOMINATORS POWERS OF TEN)
6110 PERCENT DEVELOPED THROUGH USE OF RATIOS
6740 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
7100 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
8600 OPERATIONS AND CONVERSIONS WITHIN A SYSTEM OF MEASUREMENT RELATED TO DENOMINATE NUMBERS
In column 3:
01640 PRIME FACTORIZATION: WHOLE NUMBERS
03020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS (DENOMINATORS POWERS OF TEN)
03410 COMPUTATION: MULTIPLICATION OF DECIMALS
03510 COMPUTATION: DIVISION OF DECIMALS
06000 RATIO (SEE 07440)
06110 PERCENT DEVELOPED THROUGH USE OF RATIOS
06740 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
07100 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
08600 OPERATIONS AND CONVERSIONS WITHIN A SYSTEM OF MEASUREMENT RELATED

TO DENOMINATE NUMBERS
Would you like to identify resources that address weak topics?
*YES
What type of resources would you like identified?
1. Text
2. Software
3. Film
4. Video
5. Other courseware
6. Tests
Enter menu choice(s) ... 2
Which weak topics should be included in the search?
1. Weak topics in column 2
2. Weak topics in column 3
Enter menu choice ... 1
The following resources address the weak topics in your comparison. Enter a D after each listing if you would like to see a description. Enter a return if not.
1640 PRIME FACTORIZATION: WHOLE NUMBERS
Title: Advanced Math Skills, Levels 1 & 2
Publisher: Random House
Section(s): 22, 25
*
Title: Factoring Whole Numbers
Publisher: Quality Educational Designs
Section(s): 5, 6, 7, 8
*D
3020 DECIMALS DEVELOPED IN RELATION TO COMMON FRACTIONS (DENOMINATORS POWERS OF TEN)
Title: Advanced Math Skills, Levels 1 & 2
Publisher: Quality Educational Designs
Section(s): 68, 69
*
Title: Decimals
Publisher: Eduware Services
Section(s): 2
*
Title: Fractions
Publisher: Quality Educational Designs
Section(s): 4, 5
*
6110 PERCENT DEVELOPED THROUGH USE OF RATIOS
Title: Advanced Math Skills, Levels 1 & 2
Publisher: Random House
Section(s): 19, 20
*
6740 LINEAR ALGEBRAIC EQUATIONS IN ONE VARIABLE
Title: Mission: Algebra
Publisher: Design Ware
Section(s): 1
*
7100 ANGLES, KINDS OF ANGLES, REGIONS FORMED BY ANGLES
Title: Geoboard Geometry & Measurement
Publisher: Quisenaire
Section(s): 4
*
DESCRIPTION(S) REQUESTED
1640 PRIME FACTORIZATION: WHOLE NUMBERS
Title: Factoring Whole Numbers

Publisher: Quality Educational Designs
Section(s): 5, 6, 7, 8

- Program Section -	- Section # -	- Topic Code -
1A Factor Pairs	1	1600
1B The Rectangle Game	2	1600
2A Pairs and Squares	3	1600
2B Guess and Test	4	1600
3A Primes and Composites	5	1610
		1620
		1640
3B The Sieve of Erastosthenes	6	1610
		1640
4A Exponents	7	1300
		1640
4B How Many Factors	8	1300
		1640
5A Highest Common Factor	9	1630
5B The Euclid Game	10	0240
6A Least Common Multiple	11	1680
6B Factoring Finale	12	1300

NOTES TO THE TEACHER:
This program is a mixture of instruction, practice and games. It can be used by individuals or small groups.
Avoid the onscreen introduction if possible: demonstrate the essentials of the program to your students without their using the introduction.
Several lessons require manipulative tiles made of cardboard, plastic or paper. Be sure to have these ready for your students especially if these lessons are their first acquaintance with factors.
Allow around twenty five minutes or more for each regular lesson (Part A), longer for the game (Part B).
It will take you about an hour to familiarize yourself with the program.
WOULD YOU LIKE TO PREVIEW THIS RESOURCE?
*YES

OUTPUT
Print and Computer-based Products:
The EPIE ON-LINE database is accessible in print and online.

The EPIE-CU Micro Courseware-Hardware PRO/FILES are published in full-text print versions by the EPIE Institute. The print version of *The Educational Software Selector* (TESS) is published by The Teachers College Press. The *Parents' Guide to Highly Rated Educational Software* is published by the EPIE Institute. The print versions of three serials - *EPIEgram Materials*, *EPIEgram Equipment*, and *MICROgram* - are published by the EPIE Institute.

In 1984, public online access to the EPIE ON-LINE database was provided by CompuServe Information Service, 5000 Arlington Center Boulevard, Columbus, Ohio 43220, U.S.A.

Publications and Publicising Aids:
The EPIE Institute originally published two quarterly reports: *EPIE Materials Report*; and *EPIE Equipment Report*. Since the advent of the EPIE PRO/FILES system, the *EPIE Report/Materials* and the *EPIE Report/Equipment* have been published as annual state-of-the-art reports. The EPIE PRO/FILES system consists of four components: the Textbook PRO/FILES, providing instructional design analyses of available textbooks in the areas of reading, language arts, mathematics, sciences and social studies, which are available as a complete K-12 system, as a complete elementary K-8 system, as a complete secondary 7-12 system, or as single subject areas K-12; the Micro-Courseware PRO/FILES, providing instructional design analyses of available computer software curriculum (courseware) packages, which are available as a complete set; the Microcomputer Hardware PRO/FILES, providing analyses of available microcomputer hardware, which are available as a complete set; and the A-V/V PRO/FILES, providing evaluations of audiovisual and video

equipment and systems, which are available as a complete set.

The Teachers College Press has published *The Educational Software Selector*, since its first edition in 1984. The EPIE Institute first published the *Parent's Guide to Highly Rated Educational Software* in 1988.

The *EPIEgram* newsletter was first published in 1972 and then as two separate newsletters, *EPIEgram Materials* and *EPIEgram Equipment* in 1978, and a third newsletter, *MICROgram*, was added in 1982. *EPIEgram Materials*, *EPIEgram Equipment* and *MICROgram* are published monthly, October through June, by the EPIE Institute.

The EPIE Institute publishes an information brochure on the IIIR and the CASE, titled *What is Curriculum Alignment?* The EPIE Institute also publicises the IIIR and the CASE through a paper, titled *Curriculum Alignment Demonstration Using the Integrated Instructional Information Resource (IIIR).*

Microforms and Source Documents:
No microforms are produced. Source materials are not held by the EPIE Institute.

Source materials are available from distributors as detailed in records.

Access:
The EPIE Institute markets the *EPIE Report/Materials* and the *EPIEgram Materials*, or the *EPIE Report/Equipment* and the *EPIEgram Equipment* for annual subscriptions of $US 60.00 each. The EPIE Institute markets the four components of the Textbook PRO/FILES: the complete K - 12 system for $US 300.00; the complete elementary K - 8 system for $US 200.00; the complete secondary 7 - 12 system for $US 200.00; and for the single subject areas K - 12 at $US 100.00 each. The EPIE Institute markets the Micro-Courseware PRO/FILES for $US 234.00, the Microcomputer Hardware PRO/FILES for $US 105.00, and *MICROgram* for $US 21.00, or these three components as a complete set for $US 360.00. The EPIE Institute markets the *Parent's Guide to Highly Rated Educational Software* for $US 5.95. The Teachers College Press markets *The Educational Software Selector* for $US 49.95.

Clients pay a sign-up fee $US 39.95 plus a $US 10.00 fee for the Executive service option, a connect fee of $US 12.50 - 15.00 per hour for prime time or $US 6.00 - 12.50 for standard time to CompuServe Information Service, together with a telecommunication cost of 25 cents per hour, or $US 2.00 to $US 10.00 for Tymnet and Telenet.

Products and services are available without restrictions.

Client Groups:
The intended users of the EPIE ON-LINE database include school board members, administrators, teachers, media specialists, parents, and others concerned about the quality of educational products.

The EPIE ON-LINE database is widely used throughout the U.S.A., and can be accessed by the 500,000 subscribers to the CompuServe Information Service.

REFERENCES
Bibliography:
American School Board Journal
'A "consumer's union" for education can tell you when your district is being gypped'
American School Board Journal, 162: 1, 38-40 (1975)
ERIC EJ 109 223
Describes the activities of the EPIE Institute and the processes it uses.

Berglund, P.
'School library technology'

Wilson Library Bulletin, 60: 3, 36-37 (1985)
ERIC EJ 325 606
Describes the services of the EPIE Institute.

Cohen, V.B.
Evaluating Instructional Software for the Microcomputer
Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY, March 1982
ERIC ED 216 704
Reports a study in which the EPIE Institute and the Microcomputer Resource Center at the Teachers College, Columbia University defined criteria for evaluating microcomputer courseware and tested the reliability of the resulting instrument.

Cohen, V.B.
A Learner-based Evaluation of Microcomputer Software
Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Quebec, Canada, 11-15 April 1983
ERIC ED 233 693
Reports a project to evaluate microcomputer courseware at the Microcomputer Resource Center at the Teachers College, Columbia University and to compile the resulting evaluations in the EPIE Institute's PRO/FILE system.

Educational Products Information Exchange Institute
Report on a National Study of the Nature and the Quality of Instructional Materials most used by Teachers and Learners
(EPIE Report No. 76)
New York, NY: Educational Products Information Exchange Institute (1977)
Reports the method, the results and the discussion of the findings of the NSAIM. Also presents a data collection case study, conclusions about the generalisability of the findings, and subsequent developments resulting from the NSAIM.

Educational Products Information Exchange Institute
*Deciphering L*V*R: a Key for Consumers and Publishers to Learner Verification and Revision*
(EPIE Report No. 92m)
New York, NY: Educational Products Information Exchange Institute (1980)
Presents a developmental account of activities and practices to support the use of learner verification and revision of instructional materials promoted by the EPIE Institute between 1967 and 1980.

Fiske, E.R.
'Institute runs tests on educational aids'
The New York Times, 13 August 1975, 20
Describes the activities of the EPIE Institute in evaluating educational equipment.

Goncharoff, K.
'Computer learning, from the cradle on'
The New York Times, 21 August 1983, XII, 16
Describes evidence reported by the EPIE Institute on the quality of computer programs available for young children.

Hechinger, F.M.
'Study suggests texts are often inadequate'
The New York Times, 8 April 1980, III, 4
Reports a study into the match between instructional materials and learners' needs conducted by the EPIE Institute for the National Institute of Education.

Hechinger, F.M.
'Computer software found weak'

The New York Times, 20 April 1982, III, 4
Reports the findings of research into the use of microcomputers in schools conducted by Vicki Blum Cohen under the auspices of the Microcomputer Resource Center at Columbia University and the EPIE Institute.

Jolicoeur, K. and Berger, D.E.
'Do we really know what makes educational software effective? A call for empirical research on effectiveness'
Educational Technology, 26: 12, 7-11 (1986)
ERIC EJ 347 684
Examines the methods used by the EPIE Institute and the MicroSIFT project at the Northwest Regional Educational Laboratory to evaluate microcomputer courseware, but found a low correlation between their recommendations.

Komoski, P.K.
Development of a System for an Educational Products Information Exchange. Final Report
New York, NY: Educational Products Information Exchange Institute (1967)
ERIC ED 020 566
Describes the planning and pilot study for the information system to be used by the EPIE Institute.

Komoski, P.K.
Statement Before Select Subcommittee on Education
New York, NY: Educational Products Information Exchange Institute (1971a)
ERIC ED 059 612
Presents an address, given during hearings held on 1 May 1971, that focuses upon the need to improve the quality of instructional materials. Recommends that developers use guidelines to verify and revise their products, and that schools apply guidelines for selecting instructional materials.

Komoski, P.K.
Statement of P. Kenneth Komoski, President of the Educational Products Information Exchange Institute, Before Select Subcommittee on Education, Committee on Education and Labor, United States House of Representatives
New York, NY: Educational Products Information Exchange Institute (1971b)
ERIC ED 059 242
Presents an address, given during hearings held on 11 May 1971, that focuses upon educational technology and the need to improve student learning by improving the effectiveness and efficiency of instructional materials. Recommends that the proposed National Institute of Education conduct research in this field.

Komoski, P.K.
Affecting the System through Productive Evaluation
Stony Brook, NY: Educational Products Information Exchange Institute (1982)
Paper presented at the Annual Meeting of the American Educational Research Association, 66th, New York, NY, 19-23 March 1982
ERIC ED 217 071
Presents a rationale for product evaluation based upon a view that instructional materials presented to students need to be of high quality to promote positive attitudes towards learning. Indicates that techniques used by the EPIE Institute enable precise measures of fit or misfit between materials and learners.

Komoski, P.K.
Educational Technology: The Closing-in or the Opening-out of Curriculum and Instruction
Syracuse, NY: ERIC Clearinghouse on Information Resources (1987)
ERIC ED 295 676
Argues that educators must not only be concerned with systematic integration of materials and technologies into the curriculum, but they must consider their systemic integration into a balanced curriculum. Proposes that the IIIR will provide educators and parents with information on

curriculum resources that will promote this 'opened-out' approach, rather than the prevailing 'closed-in' approach, based upon prepackaged materials.

Komoski, P.K.
'Beyond innovation: the systemic integration of technology into the curriculum'
Educational Technology, 27: 9, 21-25 (1987)
ERIC EJ 361 302
Identifies difficulties involved in integrating computer technologies into the curriculum, and describes the EPIE Institute's Integrated Instructional Information Resource (IIIR), a database intended to assist users integrate instructional resources within the curriculum.

Schmidt, P.
'What to look for in educational software'
The New York Times, 11 November 1984, XII, 8
Discusses the attributes of computer courseware identified by research conducted by the EPIE Institute, and outlines EPIE's programs for assisting users to select the appropriate courseware.

School Library Journal
'EPIE's programs and services: SLJ interviews Ken Komoski'
School Library Journal, 27: 6, 26-31 (1981)
ERIC EJ 242 741
Describes the activities of the EPIE Institute as a consumer's cooperative, research institute, evaluator of instructional materials, and its relationship with the educational community.

Contact:
*Komoski, P.K.
personal communications (1986-1988)

*P. Kenneth Komoski is the Executive Director of the Educational Products Information Exchange (EPIE) Institute.

4
MARIS ON-LINE LIMITED

Agency:
MARIS On-Line Limited

Address:
Bank House, 1 St. Mary's Street, Ely, Cambridgeshire CB7 4ER, England

Phone:
0353 661284

Facsimile:
0353 663279

Foundation Date:
not available

Governance and Funding:
The MARIS On-Line Limited was a member of William Dawson Holdings, Cannon House, Park Farm Road, Folkestone, Kent CT19 5EE, England, a book publishing and retailing company specialising in the fields of music, art, geography, history, medicine, social sciences, reference and university textbooks.

Mission and Program:
The MARIS On-Line Limited offered a variety of database creation and hosting services, provided data collection services for the information industry, in addition to managing the MARIS ON-LINE database. These services included the design and programming of the Training Development Information Service (TDIS) for the Department of Employment.

The mission of the MARIS On-Line Limited was to provide information on non-print media sources to the educational community in vocational education, technical education and professional training at the adult level. The basis of the services was a computer-readable database, which was used to provide a variety of direct computer services.

PROGRAM ORGANISATION
Database Title:
MARIS ON-LINE

Type:
Bibliographic files contain records of indexes with descriptive abstracts and citations to evaluative ratings and reviews. Also includes directory and dictionary subfiles.

Language:
English

Structure:
The MARIS-NET was available in an online version as the MARIS ON-LINE database consisting of six files, three subfiles and an electronic mailing facility.

(i) Open Learning Materials: Contained records of multimedia training materials for use through distance education.

(ii) Management Training Opportunities: Contained a subfile of records of training programs for managerial professionals extracted from other files.

(iii) PICKUP On-Line: Contained records of short, work-related training programs offered by colleges, professional institutes, trade associations, public training units, private sector companies, and training consultants.

(iv) Training Services: Contained records of contact individuals and organisations providing training programs.

(v) Training Resource Materials: Contained records of slide sets, filmstrips, and overhead transparencies for use in training programs or through distance education.

(vi) Training Films and Videos: Contained records of 16mm motion pictures and videotapes for use in training programs.

(vii) Computer Based Training and Interactive Video: Contained a subfile of records of computer-based training materials and interactive video extracted from the Open Learning Materials file.

(viii) National Open Learning Library: Contained an online catalogue, extracted from the Open Learning Materials file, of multimedia training materials available from the National Open Learning Library at the Birmingham Open Learning Development Unit (BOLDU).

(ix) Training Development Information Service: Contained records of project reports, and ongoing project proposals in the field of training extracted from datasets held by the Training Enterprise and Education Directorate.

(x) Envoy: Contained an electronic mailing facility for users.

The Open Learning Materials, Training Resource Materials, Training Films and Videos, and Computer Based Training and Interactive Video files contained information on multimedia and audiovisual materials for classroom use or self-study; and the Training Development Information Service file contained information on curriculum-related research and projects.

Scope:
multimedia and audiovisual materials for vocational education, technical education and professional training

Service Established:
not available

Service Provisions:
The MARIS ON-LINE database was provided by an online application through a videotex information service by a host organisation, by electronic mail application, by offline search application, and by optical publishing application.

The videotex system was capable of allowing the MARIS On-Line Limited to offer a closed user service. The closed user service allowed a closed user group, such as a particular company, organisation or association, to establish its own database on the MARIS-NET system, which comprised selected elements from the MARIS ON-LINE database and records added by the closed user group. The closed user group was provided with confidential passwords and user numbers, and could also use the electronic mailing application, Envoy, for confidential communications.

DEVELOPMENT
Origin:
The Materials and Resources Information Service (MARIS-NET) was originally developed by the Open Learning Unit at the Scottish Council for Educational Technology (SCET).

Trialling and Evaluation Activities:
Information on trialling and evaluation activities relating to the MARIS ON-LINE database are unavailable.

Resources:
Information on resources relating to the MARIS ON-LINE database are unavailable.

Training:
The MARIS On-Line Limited provided a one-day workshop run on a monthly basis by trained leaders at the MARIS On-Line Limited office at Ely. The workshop was available free to new subscribers and at a nominal charge to non-subscribers.

Prospective Products and Services:
The MARIS On-Line Limited ceased trading late in 1991, and its services are no longer provided. William Dawson Holdings, the parent company is currently seeking a purchaser for the MARIS ON-LINE database.

INPUT
Sources:
Information on the sources of materials in the MARIS ON-LINE database is unavailable.

Selection Policy:
Information on the selection policy used by the MARIS On-Line Limited is unavailable.

Entry Processes:
Information on the entry processes used by the MARIS On-Line Limited is unavailable.

Controlled Terminology:
Information on the controlled terminology used by the MARIS On-Line Limited is unavailable.

HOLDINGS
Record Numbers:
The Open Learning Materials file contained 5,300 records, the Management Training Opportunities subfile contained 3,000 records, the PICKUP On-Line file contained 25,500 records, the Training Services file contained 2,000 records, the Training Resource Materials file contained 2,000 records, the Training Films and Videos file contained 2,000 records, the Computer Based Training and Interactive Video subfile contained 750 records, the National Open Learning Library file contained an online catalogue of 1,500 records, and the Training Development Information Service file contained 10,500 records.

Updating:
Information on the updating of records in the MARIS ON-LINE database is unavailable.

Coverage:
Information on the coverage of records in the MARIS ON-LINE database is unavailable.

Search Strategy:
Records in the MARIS ON-LINE database were searched by either one of two modes: a beginner's mode provided step-by-step searching using the standard procedure for videotex systems by selecting option numbers displayed on a series of progressively specific menus and information pages; and an expert's mode provided for keyword searching. The MARIS ON-LINE database also allowed searchers to move forwards or backwards in search sequences, change, add or delete specific details.

A search form was used to allow search requirements to be planned off-line.

Record Samples:
Record samples from the MARIS ON-LINE database are unavailable.

OUTPUT
Print and Computer-based Products:
The MARIS ON-LINE database was accessible online, offline and on CD-ROM.

Public online access to the MARIS ON-LINE database was provided through British Telecom's Packet Switching Service.

The MARIS On-Line Limited provided offline access to the MARIS ON-LINE database through a telephone search service called Telesearcher.

The Open Learning Materials file on the MARIS ON-LINE database was available on one CD-ROM marketed by the MARIS On-Line Limited.

Publications and Publicising Aids:
The MARIS On-Line Limited published a set of one-page information brochures on the MARIS ON-LINE database entitled, *MARIS: "Training today means success tomorrow"*. The components of this set are entitled Subscription Form, Introduction and Databases, Accessing the New MARIS System, Open Learning Concept, Closed User Groups, Open Learning on CD-ROM, Subscription Details, and Workshops.

The MARIS On-Line Limited published a subject directory, user manual, and a search form.

Microforms and Source Documents:
No microforms were produced. Source documents were not held by the MARIS On-Line Limited.

Source documents of Open Learning Materials, listed in the online catalogue on the National Open Learning Library subfile, are available for inspection at the Birmingham Open Learning Development Unit, East Birmingham College, Garrets Green Lane, Birmingham B33 0TS, England.

Access:
Clients paid annual subscriptions of 280.00 pounds sterling (excluding VAT) for subscribers in the U.K. and Ireland, 300.00 pounds sterling for foreign subscribers, and 140.00 pounds sterling (excluding VAT) for educational subscribers to the MARIS On-Line Limited for online access to the MARIS ON-LINE database through British Telecom's Packet Switching Service, together with the cost of a local telephone call at 30 pence per minute or an overseas telephone call at 50 pence per minute.

Non-subscribing clients using Telesearcher paid a fee of 20.00 pounds sterling (excluding VAT), plus 40 pence per unit to the MARIS On-Line Limited for each report. This service was free to subscribers.

The CD-ROM version of the Open Learning Materials file was marketed by the MARIS On-Line Limited for an annual subscription of 290.00 pounds sterling (excluding VAT), or 155.00 pounds sterling (excluding VAT) for educational subscribers. This product includes two updates. The CD-ROM ran on an IBM compatible microcomputer with a CD-ROM drive.

The closed user service was provided to users for a negotiated fee.

Products and services were available without restrictions.

Client Groups:
The intended users of the MARIS ON-LINE database were specified to be employees of financial institutions, public service, commercial businesses, consultancy agencies, armed forces, educational organisations, industries, libraries, publishing houses, local government agencies, professional organisations, funded training bodies, information services, training agencies, and research and development agencies.

The MARIS ON-LINE database was used widely in the United Kingdom, and by some international subscribers.

REFERENCES
Bibliography:
no citations

Contact:

This description of the MARIS ON-LINE database has been compiled from secondary sources.

5
MICROMEDIA LIMITED

Agency:
Micromedia Limited

Address:
20 Victoria Street, Toronto, Ontario M5C 2N8, Canada

Phone:
(416) 362 5211

Facsimile:
(416) 362 6161

Foundation Date:
1972

Governance and Funding:
Micromedia Limited is a micropublishing firm.

Mission and Program:
The primary activity of Micromedia Limited is the distribution of serials and Canadian government documents in microform. Its Microlog clearinghouse service is an integrated abstracting, indexing and document delivery service for report literature from Canadian government agencies, universities, research institutions, and nonprofit organisations. The service comprises a monthly indexing publication, a cataloguing service providing libraries with card sets or magnetic tapes of MARC records for the documents, and full-text documents on microfiche. The Microlog index is also publicly available online. Additionally, Micromedia Limited provides most documents on a single-title demand basis in paper copy or microfiche. It offers Canadian and United States corporate reports on demand through the Insider service, and Canadian and foreign patents through a patents service. Micromedia Limited also produces six databases: the Canadian Business Index; the CanCorp Canadian Corporations; the Canadian Education Index; the Canadian Magazine Index; the Canadian News Index; and the Directory of Associations in Canada.

Educational resources produced by Micromedia Limited comprise the Canadian Education Index (CEI), educational monographs on microfiche, all the curriculum guides of the ten provincial and two territorial departments of education in Canada on microfiche, full text copies of Canadian education periodicals in microform, and CD:Education, a CD-ROM covering the CEI, Ontario Education Resources Information System (ONTERIS), and the Canadian Education Association Handbook.

PROGRAM ORGANISATION
Database Title:
Canadian Education Index (CEI)

Type:
Bibliographic records contain indexes.

Languages:
English and French

Structure:
The CEI database contains records on articles published in 200 education-related, English- and French-language Canadian journals, dissertations, and reports.

Scope:
all aspects of educational research

Service Established:

1965

The CEI database is currently used only for internal production purposes. An online service is not available.

Service Provisions:
The CEI database is provided through a printed journal application, by magnetic tape application, by micrographic application, by optical publishing application, and a document delivery service is offered by the provider.

DEVELOPMENT
Origin:
The CEI was first published by the Canadian Council for Research in Education, located in Ottawa, Ontario, with grants provided by the Canada Council. Publication of the CEI was taken over in 1973 by the Canadian Education Association based in Toronto, Ontario. In 1976, a computer-readable database of the CEI was established. Micromedia Limited assumed publishing responsibility for the CEI in 1988, when the coverage was broadened to absorb the *Directory of Education Studies in Canada*, which reported unpublished educational literature.

Trialling and Evaluation Activities:
Information on trials and evaluations of the CEI are unavailable.

Resources:
The CEI is housed in the offices of Micromedia Limited, and staffed by one full-time information professional (managing editor), one part-time technician (indexer), and one part-time clerical (secretary). Supplementary staffing is provided by volunteer indexers from various educational institutions across Canada.

Training:
Information on the training of personnel employed by the CEI are unavailable.

Information on the training of clients provided by the CEI are unavailable.

Prospective Products and Services:
A meeting of representatives of the Educational Resources Information Center, the Australian Education Index, the British Education Index and the Canadian Education Index held in Washington, D.C. from 31 October to 1 November 1991 resolved to include the Canadian Education Index and the Australian Education Index within a cluster of English language databases available online through DIALOG Information Services, Inc.

INPUT
Sources:
The CEI collects successive editions of journal series from publishers and distributors. Other documents are collected from provincial governments, faculties of education, large school boards, and other educational organisations.

Selection Policy:
The CEI information professional identifies articles of permanent educational interest published in a selected set of journals. Significant new or omitted journals can be added to the set. Documents selected for inclusion in the CEI database must meet specified criteria.

Entry Processes:
The information professional at CEI catalogues and indexes the documents with descriptors from the *Canadian Education Thesaurus* .

Controlled Terminology:
Between 1965 and 1990, the controlled vocabulary consisted of the Canadian Education Subject Headings, a bilingual English- and French-language list developed and revised periodically by

the CEI.

In August 1986, a conference of representatives from Educational Resources Information Center, Canadian Education Index, Australian Education Index and BEI was held at the Office of Educational Research and Improvement, United States Department of Education with the intention of extending cooperation to develop a common controlled vocabulary and online services through a permanent committee, the InterEd Working Group. This conference provided the stimulus for developing a thesaurus by adapting the *Thesaurus of ERIC Descriptors*. Developed under contract to the Council of Ministers of Education, Canada, the first edition of the *Canadian Education Thesaurus* was published in 1991. New terms are added and refined through regular analysis of the educational literature.

The *Canadian Education Thesaurus* is a bilingual English- and French-language classification tool. Terms are categorised within the *Canadian Education Thesaurus* into two types: narrower terms and broader terms are used to indicate hierarchical relationships among terms so as to refine indexing and searching; and related terms are cross-references that are neither hierarchical nor equivalent but essential for informing users of alternative terms. In addition, 'used for' references are employed to solve problems of synonymy by directing searchers to preferred terms. Scope notes, brief statements indicating intended usage, appear with certain descriptors selected according to specific criteria.

HOLDINGS

Record Numbers:
In January 1991, the CEI database consisted of 24,000 records.

Updating:
The CEI database is updated every four months.

Coverage:
The CEI database covers from 1976 to the present.

Search Strategy:
Information on the search strategy for use in the CEI database is unavailable.

Record Sample:
A record sample from the CEI database is unavailable.

OUTPUT

Print and Computer-based Products:
The CEI database is accessible offline in print, on magnetic tape designed for installation on local retrieval systems, and on CD-ROM.

The printed form of the CEI database, produced in three part issues annually supplemented by an annual cumulative edition as the journal, *Canadian Education Index/Repertoire Canadien sur l'Education*, is published by Micromedia Limited.

The magnetic tape, containing the CEI database from 1976 to the present, is produced every four months by Micromedia Limited.

The CEI database became available in 1991 on CD-ROM as part of CD:Education, marketed by Micromedia Limited. The CD-ROM version consists of a current disk covering the period from 1986 to the present.

Publications and Publicising Aids:
Micromedia Limited produces the *Canadian Education Index/Repertoire Canadien sur l'Education*, the *Canadian Education Thesaurus*, and a 4-page information brochure, entitled *Education Resource Information from Canada*.

Microforms and Source Documents:
The full texts of significant documents, over 4,000 monographs and research publications published since 1982, and indexed in the CEI database are available in microfiche from Micromedia Limited through its Microlog Education Collection. Micromedia Limited also provides full texts in microform of articles published in 76 journals indexed in the CEI database.

Access:
Micromedia Limited markets the *Canadian Education Thesaurus* for $Can 55.00, the *Canadian Education Index/Repertoire Canadien sur l'Education* for an annual subscription of $Can 345.00. Back issues, dating from 1975, are available at reduced rates.

Micromedia Limited markets annual editions from the Microlog Education Collection for 1991 at $Can 1,800.00 and 1992 at $Can 1,900.00, with a complete backfile covering editions from 1982 through 1990 for $Can 11,000.00. Annual editions of the backfile are also available.

The CEI database is available, together with the Ontario Education Resources Information System (ONTERIS) database and The Canadian Education Association Handbook, on one CD-ROM marketed by Micromedia Limited as CD:Education for an annual subscription of $Can 800.00. This product includes updates at four-month intervals, software, user manuals, quick-help card, and customer support. CD:Education runs on an IBM-compatible microcomputer with a CD-ROM drive.

Products and services are available without restrictions.

Client Groups:
The intended users of the CEI are specified to be educational researchers, administrators, students in higher education, and teachers.

The CEI is used widely throughout Canada.

REFERENCES
Bibliography:
Sawyer, D.
'Canada's bibliographic source in education'
Education Canada, 18: 1, 23-25 (1978)
Describes the development of the CEI between 1965 and 1978.

Contact:
This description of the CEI has been compiled from secondary sources.

6

NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION (NCRVE)

Agency:
National Center for Research in Vocational Education (NCRVE)

Address:
University of California, Berkeley, Graduate School of Education, 1995 University Avenue, Suite 375, Berkeley, CA 94704, U.S.A.

Phone:
(415) 642 3798

Foundation Date:
1965

Associated Agencies:
The NCRVE cooperates with six Curriculum Coordination Centers, which function as regional clearinghouses for the VECM database.

East Central Curriculum Coordination Center, Sangamon State University, F-2, Springfield, IL 62794, U.S.A.; Phone: (217) 786 6375
Serves the region of Delaware, Maryland, District of Columbia, Virginia, West Virginia, Pennsylvania, Ohio, Indiana, Michigan, Wisconsin, Illinois, and Minnesota.

Midwest Curriculum Coordination Center, 1500 West 7th Avenue, Stillwater, OK 74074, U.S.A.; Phone: (405) 377 2000
Serves the region of Nebraska, Iowa, Kansas, Missouri, Oklahoma, Arkansas, Louisiana, Texas, and New Mexico.

Northeast Curriculum Coordination Center, New Jersey State Department of Education, Division of Vocational Education, Crest Way, Aberdeen, NJ 07747, U.S.A.; Phone: (201) 290 1900
Serves the region of New York, New Jersey, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, Maine, Puerto Rico, and Virgin Islands.

Northwest Curriculum Coordination Center, Old Main Building, Room 478, St. Martin's College, Lacey, WA 98503, U.S.A.; (206) 438 4456
Serves the region of Washington, Oregon, Idaho, Montana, Wyoming, Utah, Colorado, North Dakota, South Dakota, and Alaska.

Southeast Curriculum Coordination Center, Mississippi State University, P.O. Drawer DX, Mississippi State University, MS 39762, U.S.A.; Phone: (601) 325 2500
Serves the region of Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi.

Western Curriculum Coordination Center, College of Education, University of Hawaii, 1776 University Avenue, Honolulu, HI 96822, U.S.A.; Phone: (808) 948 7834
Serves the region of California, Nevada, Arizona, Hawaii, American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Republic of the Marshall Islands, and Republic of Palau.

Governance and Funding:
The NCRVE is a research and development centre located in the Graduate School of Education at the University of California, Berkeley.

The NCRVE is funded by the Office of Vocational and Adult Education, United States Department of Education.

Mission and Program:
The mission of the NCRVE is to address issues of national significance and to promote improvement in vocational and technical education at the secondary and post-secondary levels. This mission is accomplished through eight main activities: conducting and publishing research results; conducting conferences and workshops; developing and publishing curriculum materials and performance-based teacher education materials; screening, selecting and promoting exemplary materials for vocational and technical education; providing technical assistance; providing leadership training in personnel development; disseminating information by means of printed and electronic newsletters; and managing the RIVE and VECM databases.

The NCRVE cooperates with the regional Curriculum Coordination Centers and state vocational education resource centres, forming the National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE), to strengthen the national network of applied vocational education research and development activities by serving as a clearinghouse for information about state-funded curriculum and research projects in vocational and technical education at the adult level.

PROGRAM ORGANISATION
Database Titles:
Vocational Education Curriculum Materials (VECM); Resources in Vocational Education (RIVE)

Type:
Bibliographic records contain indexes with descriptive abstracts.

Language:
English

Structure:
The NCRVE operates two databases.

(i) Vocational Education Curriculum Materials (VECM): Contains records of currently available print and non-print curriculum materials for vocational and technical education.

(ii) Resources in Vocational Education (RIVE): Contains records of project reports, and ongoing project proposals in the field of vocational education, including the products resulting from these projects.

Scope:
instructional materials and educational research in vocational and technical education

Service Established:
1978 for the RIVE database; 1982 for the VECM database

Service Provisions:
The VECM and RIVE databases are provided by online application through an information retrieval service by a host organisation, and a document delivery service is offered by the provider.

DEVELOPMENT
Origin:
The NCRVE was established by the United States Office of Education in 1965 at the Ohio State University, Columbus, Ohio. In 1978, the NCRVE established the RIVE database, formerly named Abstracts of Instructional Materials in Vocational and Technical Education/Abstracts of Research Materials in Vocational and Technical Education (AIM-ARM), to track projects, plan and evaluate programs, set priorities, avoid duplication, and to assist planning and policy making in vocational education.

The United States Office of Education funded five state curriculum laboratories in California,

Illinois, Kentucky, Mississippi, and Oklahoma in 1972, following the completion of a study into the need for a curriculum delivery system. In 1973, grants were provided to the states of New Jersey and Washington to establish laboratories. In July 1973, these seven laboratories formed the National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE) in order to coordinate curriculum planning and development activities, and to collect and disseminate curriculum materials. The NNCCVTE was later reduced to six Curriculum Coordination Centres located in Illinois, Oklahoma, New Jersey, Washington, Mississippi, and Hawaii.

Initially, the activity of collecting and disseminating information on curriculum materials was undertaken by manual searches of catalogues, microfiche and other resources. As a result of a cooperative effort by the six Curriculum Coordination Centers and the NCRVE, the VECM database was developed to improve the efficiency and cost effectiveness of this activity.

Trialling and Evaluation Activities:
Chase (1982) reported that the VECM database was initiated through a feasibility study in which 150 records were entered into the database. The cooperating agencies were able to use this study as a basis to build familiarity with the operations of the VECM database, and to assess its fit. Public access to the VECM database was provided late in 1982, following completion of the feasibility study.

Information on trials and evaluation activities relating to the RIVE database is unavailable.

Resources:
The NCRVE provides one full-time information professional to coordinate both the RIVE and VECM databases.

Training:
Information on the training of the information professionals, employed by NCRVE and the Curriculum Coordination Centers, on the VECM and RIVE databases is unavailable.

The NCRVE and the Curriculum Coordination Centers provide assistance on an individual basis to users accessing the VECM database, whilst the NCRVE provides assistance on an individual basis to users accessing the RIVE database.

BRS Information Technologies provides training sessions throughout the United States, Canada, Europe and Australasian region for new, experienced and specialised users. Tailored training courses can be arranged to cater for the needs of individual organisations. One-day introductory and half-day advanced training programs for users of the BRS Search Service are currently available in Australia at Sydney, Melbourne, Canberra, Adelaide, Brisbane, Perth, and Hobart.

Prospective Products and Services:
No prospective products and services are developed at present in relation to the VECM and RIVE databases.

INPUT
Sources:
Documents for entry into the VECM database are submitted to the Curriculum Coordination Centers by authors, state education departments, institutions of higher education and other educational organisations.

Documents for entry into the RIVE database are collected by the NCRVE from state education departments by means of a network of state program improvement officers, the federal Office of Vocational and Adult Education, institutions of higher education, and other educational organisations.

Selection Policy:
The policy for selecting curriculum materials for entry into the VECM database is based upon a set of five criteria: they must be intended for classroom use in vocational or technical education; they

must be available nationally within the United States; they must be developed or published within the last eight years; they must be available in either print or non-print forms; and they must be in the public domain (except for microcomputer courseware).

The RIVE database covers projects in all fields of vocational education, although special emphasis is given to the research, personnel development, and curriculum development activities funded under the Carl D. Perkins Vocational Education Act of 1976.

Entry Processes:
Documents for entry into the VECM database are screened, indexed, abstracted and entered by the Curriculum Coordination Centers.

Documents for entry into the RIVE database are screened, indexed, abstracted and entered by the NCRVE.

Controlled Terminology:
The *Classification of Instructional Programs*, a listing distributed by the National Center for Education Statistics, Office of Educational Research and Improvement, United States Department of Education, 555 New Jersey Avenue, Washington, DC 20208, U.S.A., is used to index records for the VECM database.

Terms selected from the *Thesaurus of ERIC Descriptors* and *ERIC Identifier Authority List* are used to index records for the RIVE database.

HOLDINGS
Record Numbers:
The VECM database contains 6000 records, and the RIVE database contains 14,000 records. The RIVE database divides equally between project records and product records.

Updating:
The VECM database is updated annually by removing records of products that are no longer available. Records are purged after seven years, unless they have been replaced by new versions.

Online services for both the VECM and RIVE databases are updated quarterly.

Coverage:
The VECM database covers the period from 1981 to the present with selected, retrospective coverage; and the RIVE database covers the period from 1978 to the present.

Search Strategy:
The fields of the VECM database are searched by three procedures. The BRS valued parameter, a way of searching for ranges of numeric values in specially formatted fields, is used for searching the Accession Number (AN), Update Code (UP), and Year of Publication (YR). One group of non-numeric fields is searched by free text: Title (TI); Sponsoring Agency (SA); State (ST); Developer (DV); Descriptive Note (DN); Availability (AV); and Additional Availability (AA). The other group of non-numeric fields is searched by terms selected from the controlled vocabulary. The Subject Matter Descriptors (SM, SU) are searched by terms selected from the controlled vocabulary with multi-word descriptors in the SM field and single-word descriptors in the SU field; Educational Level (EL) by terms indicating grade levels; Intended User (IU) by terms indicating groups within educational system; Student Target Population (SP) by terms of reflecting student groups; Print Material (PM) by terms indicating different print media; Nonprint Media (NM) by terms indicating different non-print media; and Curriculum Center Code (CC) by titles of the six Curriculum Coordination Centers.

The fields of the RIVE database are searched by three procedures. The BRS valued parameter, a way of searching for ranges of numeric values in specially formatted fields, is used for searching the Accession Number (AN), Update Code (UP), Fiscal Year (FY); Total Project Dollars (TD); and Fiscal Year Funding (FF). One group of non-numeric fields is searched by free text: State (ST);

Proposal Identification Number (PI); Contract, Grant or Project Number (NO); Title (TI); Project Director (PD); Organisation Name (ON); Sponsoring Agency (SA); Project Officer (PO); Project Dates (DT); Descriptive Note (DN); Target Population (TP); Products (PR); Program Priorities (PP); and Abstract (AB). The other group of non-numeric fields is searched by terms selected from the controlled vocabulary. Funding Source (FS) is searched by identifying from the sections, 131 research, 132 exemplary or innovative, or 133 curriculum development, under the Vocational Education Act of 1976 for which funding is provided. Congressional District (CD) is searched by the congressional district number of the organisation conducting the project. Educational Level (EL) is searched by terms indicating grade levels; Major and Minor Descriptors (MJ, MN) are searched by terms selected from the *Thesaurus of ERIC Descriptors*; and Identifiers (ID) are searched by terms selected from the *ERIC Identifier Authority List*.

Record Samples:

VECM Document:

AN 008253.
TI Automotive Service Technicians Cluster.
YR 1989.
SA Skills Training and Education Program.
PO Box 4839.
Montgomery, AL 36103-4839.
ST Alabama.
DV Skills Training and Education Program.
PO Box 4839.
Montgomery, AL 36103-4839.
Rickicki, John.
SM Trade-Industrial.
Mechanics-Repairers-47.
Vehicle-Mobile-Equipment-Mechanics-Repairers-47.06.
Automotive-Mechanics-47.0604.
EL 13-14.
IU Student; Teacher.
SP Regular.
PM Curriculum Guide; Teaching Guide; Competency-based; Task Analysis.
FO 182 pp.
DN The Curriculum and Instruction Unit consists of lesson plan guide, a list of modules and tasks, task assignments by existing occupations, test items (fill in the blank and T/F), key words, and steps to follow in completing the task.
CI Contact the developer for copyright information.
AV Loan. Mr. John Rickicki.
PO Box 4839.
Montgomery, AL 36103-4839.
(205) 242-5852.
AA Copies have been sent to all curriculum centers.

RIVE Document:

AN 018097. 8710.
FS 133.
FY 1987.
ST Illinois
PI IL8713311.
NO CN: 77-RH-644.
TI Principles of Technology.
PD Gloechner, Gene W.; Loepp, Franzie L.
PHONE: (217) 438-2310.
ON Illinois State University
Industrial Technology Department, Normal, IL 61761.
OT College/University.
SA Illinois State Office of Education, Springfield.

DT Start Date 01 Jul 86; End Date 03 Jun 87.
FF 87; 1000030.
TP TEACHER/COORDINATOR
EL HIGH SCHOOL (10-12).
PR PROGRAM IMPLEMENTATION.
MJ Fundamental-Concepts. Pilot-Projects. Program-Implementation. Technology.
MN Secondary-Education.
ID STATE, PROPOSAL.
PP CURRICULUM.
AB Nine pilot "Principles of Technology" programs will be established in high schools throughout the state. Also, information about principles of technology will be disseminated and consultant services will be provided. Project activities will include conducting workshops, making presentations, and establishing a computer network. A final report will be delivered.

OUTPUT

Print and Computer-based Products:

The VECM and RIVE databases are only accessible online.

Public online access is provided through BRS Information Technologies, 8000 Westpark Drive, McLean, VA 22102, U.S.A., to both the VECM and RIVE databases.

Publications and Publicising Aids:

The NCRVE publishes and distributes two, one-page brochures titled *Vocational Education Curriculum Materials (VECM)* and *Resources in Vocational Education (RIVE).*

BRS Information Technologies publishes and distributes aid pages for both the VECM and RIVE databases, a 17-page database guide for the VECM database, and a 24-page database guide for the RIVE database.

Microforms and Source Documents:

No microforms are produced for either the VECM or RIVE databases.

Source documents of records contained in the VECM database are available from the Curriculum Coordination Centers or other sources as noted in the Availability or Additional Availability fields. Source documents are not available for the RIVE database.

Access:

Clients pay a fee of $US 28.00 per hour plus 16 cents per unit to BRS Information Technologies for online access to either the VECM or RIVE databases on BRS Search Service. Both the VECM and RIVE databases are available on three BRS products: within BRS/Search Service on BRS/Educator, a specially priced plan available exclusively for professionals working in educational settings and BRS/Instructor, designed to enhance the teaching of online searching techniques; on BRS Colleague providing access to the world of biomedical literature and information; and on BRS/After Dark providing BRS/Search Service at reduced rates for evening and weekend use. BRS Information Technologies also provides discounts for high-volume users in the form of three advance purchase plans: open access; annual commitment by advance purchase; and annual commitment by monthly installment.

Products and services are available without restrictions.

Client Groups:

The intended users of the VECM database are specified to be vocational educators, teachers, counsellors, program planners and administrators, and the intended users of the RIVE database are specified as vocational educators, administrators, state and federal education agencies in the United States. A user directory of specific client groups using the VECM and RIVE databases is not maintained.

The VECM and RIVE databases are widely used in the U.S.A., and can be accessed in Australia, Canada, Columbia, Egypt, Finland, Germany, Israel, Japan, South Korea, Mexico, Netherlands, and Taiwan through gateway services offered by BRS Information Technologies.

REFERENCES

Bibliography:

Chase, S.A.
Vocational and Technical Curriculum Materials Database Feasibility Study, Final Report
Columbus, OH: Ohio State University (1982)
ERIC ED 215 144
Reports a feasibility study and trial of the Vocational Education Curriculum Materials database.

Chase, S.A.
'One-stop curriculum shopping'
VocEd, 60: 2, 43-44 (1985)
ERIC EJ 314 764
Describes the Vocational Education Curriculum Materials database and how it can help in curriculum planning.

Chase, S.A.
'Resource material for the business education curriculum'
Journal of Education for Business, 63: 5, 197-199 (1988)
ERIC EJ 365 603
Describes the Vocational Education Curriculum Materials database as a resource for locating new curriculum materials for business education.

Hayward, B. et al.
Operations and Management of the National Network for Curriculum Coordination in Vocational and Technical Education
Washington, DC: Advanced Technology, Inc. (1984)
ERIC ED 251 636
Reports a study of the operations and management of the National Network for Curriculum Coordination in Vocational and Technical Education.

Kelly, J.F. and Law, G.F.
'The National Network: an assessment after five years'
American Vocational Journal, 53: 5, 35-37 (1978)
Describes the development of the National Network for Curriculum Coordination in Vocational Education between 1972 and 1978, focusing upon information services, reducing duplication, its relationships with states developing curricula around performance objectives (V-TECS) and the National Center for Research in Vocational Education.

Lovell, M.G.
'Instructional resources for the industrial arts/technology educator'
The Technology Teacher, 44: 3, 13-14 (1984)
ERIC EJ 307 970
Describes the activities of the National Network for Curriculum Coordination in Vocational Education and the National Center for Research in Vocational Education in providing curriculum resources.

Patton, R.
'The National Network for Curriculum Coordination: what it is and how it works'
American Vocational Journal, 53: 5, 32-34 (1978)
Describes the organisation and operation of the National Network for Curriculum Coordination in Vocational Education.

Simpson, E.J.
'A national network for curriculum coordination: tying up the pieces'

American Vocational Journal, 48: 7, 22-25, 35 (1973)
Describes the planning and early development of the National Network for Curriculum Coordination in Vocational Education during 1972 and 1973.

Smink, J.
'The National Center for Research in Vocational Education and the industrial arts/technology educator'
The Technology Teacher, 44: 4, 6-8 (1985)
Describes the major functions of the NCRVE, its products and services, and identifies how the NCRVE can serve the industrial arts-technology educator.

Contact:
*Carlson, D.
1991 personal communication

*David Carlson is the System Manager, National Center for Research in Vocational Education.

7
NERIS TRUST

Agency:
NERIS Trust

Address:
Maryland College, Leighton Street, Woburn, Milton Keynes MK17 9JD, England

Phone:
(0525) 290364

Facsimile:
(0525) 290288

Other and Associated Agencies:
(i) Other Agencies: The NERIS Trust maintains three agencies, or offices within cooperating agencies, which coordinate NERIS activities within the political regions of the United Kingdom.

NERIS Northern Ireland, Northern Ireland Curriculum Council (NICC), Stranmillis College, Stranmillis Road, Belfast BT9 5DY, Northern Ireland; Phone: (0232) 381414; Fax: (0232) 666573

NERIS Scotland, Scottish Consultative Council on the Curriculum (SCCC), Room E37, Gardyne Road, Broughty Ferry, Dundee DD5 1NY, Scotland; Phone: (0382) 458933

NERIS Wales, 5 Cwrty Parc, Parc Ty Glas, Llanishen, Cardiff CF4 5GH, Wales; Phone: (0222) 766899

(ii) Associated Agencies: Between April 1989 and April 1992, the NERIS Trust contracted the operation of NERIS Nodes to 37 centres of educational expertise at universities, professional associations, other educational organisations, and commercial organisations with expertise in publishing and information management. From April 1992, the NERIS Nodes and other, newly contracted agencies totalling 613 organisations were retitled, Information Providers. The NERIS Nodes or Information Providers acquire, select and process their own curriculum products as well as those from constituent organisations within particular subject areas.

Foundation Date:
1988

Governance and Funding:
The NERIS Trust, a company limited by guarantee, is governed by a board of directors. The NERIS Trust is based at the Open University.

Funding for the development project to establish the NERIS was provided by the Department of Trade and Industry, and also to the NERIS Trust for a further year after its foundation. Since that period, the NERIS Trust has been required to finance its operation through contract work, sponsorship, and a subscription service. In January 1989, the Secretary of State for Education and Science provided a special purpose, triennial grant of 410,000 pounds sterling to the NERIS Trust. In April 1989, the Department of Trade and Industry provided a triennial grant of 250,000 pounds sterling to centres of educational expertise at universities, professional associations and other organisations, contracted as NERIS Nodes by the NERIS Trust, to gather and process information onto the NERIS database.

Mission and Program:
The mission of the NERIS Trust is to provide a cost-effective information service of high quality for the educational community in the United Kingdom on curriculum resources in all fields that are suitable for age groups ranging from 5 year-olds to 18 year-olds. This mission is accomplished through a program that has six main aims: to create a database for storing information on educational resources; to provide full-text information on non-commercially available curriculum materials; to develop an information handling system to meet the future needs of education; to act

as a national agency for the collection and dissemination of information on educational resources; to apply new technologies to improve access to curriculum information; and to develop training techniques and materials for assisting users of the NERIS database.

PROGRAM ORGANISATION
Database Title:
National Educational Resources Information Service (NERIS)

Type:
Each file contains bibliographic records of indexes with descriptive abstracts, which may include optional reports of field tests, optional part-text extracts, and optional full-text forms.

Languages:
English and Welsh

The files of the NERIS database are monolingual, comprising 592 English-language files and 21 Welsh-language files.

Structure:
The NERIS database, available in an online version as NERIS On-Line, consists of 613 files, each containing a file of records maintained by an Information Provider.

Scope:
all aspects of professional and instructional materials, including policy documents on the National Curriculum, curriculum guides, promotional materials on professional activities, audio materials, microcomputer courseware, educational equipment, print materials, audiovisual materials, video products, educational films, educational television programs, multi-media materials, and promotional materials on educational excursions

Service Established:
1987

Service Provisions:
The NERIS database is provided by online application through a modified videotex information service, and by optical publishing application.

DEVELOPMENT
Origin:
The need for the NERIS was identified in a study carried out in 1985 by the Council for Educational Technology, which led to the Industry-Education Unit of the Department of Trade and Industry funding a two-year project to develop the NERIS in April 1986. The information gathering network and the on-line database system were established during this period. The NERIS also developed an instrument, which provides scope to analyse instructional materials in terms of seven basic elements: bibliographic information; descriptive information, providing a description of the content; information about availability; comments on the use of the material, providing comments, reviews, and evaluations of the material by teachers (optional); text part, providing an extract, abstract, short description or example taken from the material (optional); extension part, providing the full text of the material (optional, and used if the material is only available through the NERIS database); and descriptor parts, providing indexing terms.

This development project then became the program of the NERIS Trust, when it was formed in April 1988. Following the general election of June 1987, the re-elected Conservative government introduced legislation into Parliament during the following November in the form of the Education Reform Bill. Passed in 1988, the Education Reform Act provided for a National Curriculum embodying a set of ten foundation subjects: mathematics; science; English; technology; history; geography; art; music; physical education; and a modern language. In January 1989, the Secretary of State for Education and Science funded the NERIS Trust to develop a file of National Curriculum information within the NERIS database and to link curriculum documents on the database to the

statutory requirements issued by the Conservative government.

Trialling and Evaluation Activities:
Information on trials relating to the NERIS database is unavailable.

In 1991, approximately 100 educational institutions in the Strathclyde region of Scotland were involved in the Strathclyde Evaluation Project, intended to provide a formative evaluation of the NERIS and to identify how the needs of Scottish users could be better met by the NERIS database. The evaluation involved a survey by questionnaire to identify potential improvements to the NERIS database, in-service training requirements, and issues relating to the management of NERIS services and products in schools.

Resources:
The NERIS Trust is staffed by approximately thirty personnel. Information on other resources is unavailable.

Training:
Information professionals in existing and newly contracted NERIS Nodes and Information Providers are trained in regularly held seminars by the NERIS staff. A telephone support service is provided to information professionals in existing and newly contracted NERIS Nodes and Information Providers after training programs. New Information Providers are required to provide the NERIS Trust with sample analyses of materials to verify whether the implications of the NERIS instrument have been adopted successfully.

The NERIS Trust conducts seminars, workshops and demonstrations for administrators, curriculum consultants, teachers and other educators, and presents displays at national conferences and exhibitions.

The NERIS Trust provides assistance on an individual basis to users accessing the NERIS database by means of a telephone Helpline service.

Prospective Products and Services:
It is anticipated that a second edition of the *NERIS Curriculum Thesaurus* will be published in 1993 following the implementation of the National Curriculum in England and Wales.

INPUT
Sources:
Materials are collected from approximately 1,500 sources throughout the United Kingdom by 613 NERIS Nodes and Information Providers, contracted from within the range of these sources. These sources include the Department of Education and Science, the National Curriculum Council (NCC), the Curriculum Council for Wales (CCW), the Scottish Consultative Council on the Curriculum (SCCC), the Northern Ireland Curriculum Council (NICC), the School Examinations and Assessment Council (SEAC), professional associations, examination boards, teachers' centres, resource centres, field study centres, schools, book publishers, computer software publishers, commercial and industrial companies producing educational materials, museums, historic sites, charitable organisations, BBC Education TV and Radio, and IBA Television.

Selection Policy:
The selection policy for including materials in the NERIS database is the responsibility of each NERIS Node or Information Provider, which specifies criteria related to its particular subject area.

Entry Processes:
Information professionals in NERIS Nodes and Information Providers analyse materials using the NERIS instrument and index materials with terms selected from the NERIS Thesaurus.

Controlled Terminology:
The controlled vocabulary, in the form of the *NERIS Curriculum Thesaurus*, was developed by a project officer in collaboration with a group of information specialists, following consultations with

a wide range of educational opinion in order to take account of changes in terminology brought about by the introduction of the National Curriculum. Those involved in this process included twenty-four organisations: the Association for Science Education; the Bedfordshire Schools Library Service; the Calderdale Libraries; the Central Regional Council School Library Service; the Centre for Innovation in Mathematics Teaching; the Centre for Research Education and Training in Energy; the Design and Technology Association; the Derbyshire College of Higher Education; the Design Council; the English and Media Centre; the Froebel Institute College; the Hampshire Records Office; the Hertfordshire Library Service for Schools; the Historical Association; the Humanities Resource Centre; the Loughborough University of Technology; the National Association for the Teaching of English; the National Curriculum Council; the Newman College; the National Council for Educational Technology; the Northern College of Education Library Resource Centre; the Nottingham Polytechnic; the Royal Society of Chemistry; and the Wilberforce College. Developed with the assistance of a grant from the Department of Education and Science, the first edition of the *NERIS Curriculum Thesaurus* was published in 1990.

The controlled vocabulary is available in two versions: in a short form, as the *NERIS Curriculum Thesaurus*, the printed version, which is recommended to be used for off-line search preparation; and in a long-form as the NERIS Thesaurus, the online and CD-ROM version available in the extended search system, which should be used to develop the search further while searching online or on CD-ROM. Terms are constructed and formatted within the NERIS Thesaurus to cover educational content, media, and age phase according to specific rules. These terms are categorised within the NERIS Thesaurus into two types: narrower terms and broader terms are used to indicate hierarchical relationships among terms so as to refine indexing and searching; and related terms are cross-references that are neither hierarchical nor equivalent but essential for informing users of alternative terms. In addition, 'used for' references are employed to solve problems of synonymy by directing searchers to preferred terms. Scope notes, brief statements indicating intended usage, appear with certain descriptors selected according to specific criteria. Both the NERIS Thesaurus and the *NERIS Curriculum Thesaurus* are arranged according to a primary alphabetical display.

HOLDINGS

Record Numbers:
In February 1992, the NERIS database contained approximately 48,000 records.

Updating:
The NERIS database increases by approximately 6,600 records annually.

The CD-ROM version is updated three times a year.

Coverage:
Information on the coverage of records in the NERIS database is unavailable.

Search Strategy:
Records in the NERIS database are searched by either one of two modes: the basic search system, a beginner's mode providing step-by-step searching using keywords; and the extended search system, an expert's mode providing for keyword searching by commands. Records are searched by terms selected from the controlled vocabulary for educational content, media, age phase, author, title, availability, datafile, and date. In the basic search system, the searcher enters information into a number of boxes on the enquiry screen by using terms selected from the controlled vocabulary for interest areas (subjects or topics), media, and age phase. The results of the search are presented on the search report screen, which permits the searcher either to view the records or to refine the search. In the extended search system, the searcher enters a term selected from the controlled vocabulary for a subject or topic on the enquiry screen. The results of the search are presented on the first of nine lines for indicating the results of searches. The records from the search are then presented on the search report screen. This procedure can be repeated by returning to the enquiry screen, either to extend or refine searching.

Record Sample:
Flexible Learning File: Bibliographic Record

TITLE: GCSE MODULAR MATHEMATICS
MEDIA: Booklet; teachers notes, worksheets, set of 3.
SERIES: FL South East Region
PUBLISHER: South East Region FL Project
PUBLISHED: 1991
EDUCATIONAL CONTENT:

The titles available are: Money Management, Core Mathematics and Statistics. They have been written specifically for the SEG mature SCSE (modular), but will be of use to any other mature maths courses and mainstream GCSE. Each booklet includes, under individual topics:- explanatory notes of the relevant theory; worked examples; a few questions - three or four - to test the initial understanding of the students; at least one exercise to reinforce initial understanding. They have been written by a practicing teacher with special attention to language and student 'ease' of understanding. They lend themselves to student directed learning, a flexible/open learning approach or the more traditional teaching styles. They will 'stand alone' or can be supplemented by other materials. The materials have been piloted during 1990/91 at John Ruskin S.F.C.

The 'Core Maths and Money Management' booklets can act as revision guides for mainstream SCSE courses.

AGE PHASE: Teachers and advisors of 14 - post 16 age groups.

AVAILABILITY:

For further information. Contact: Brian Thomson
ADDRESS: John Ruskin S.F.C., Upper Shirley Road, Croydon, Surrey CR9 JAR
TEL: 081 656 0094
COST: 3.50 pounds sterling Money Management, 4.50 pounds sterling Core Maths, 3.50 pounds sterling Statistics including package and postage

This material has been produced by the National Flexible Learning Development Projec and is intended for use in a student-centred context. Information and assistance on this point can be obtained from your Regional Flexible Learning Coordinator. Details of names, addresses and telephone numbers are available on NERIS. To find these search the database for the titles FL and REGIONAL and the media CONTACT.

CONTENT DESCRIPTORS:

MODULAR CURRICULUM	FLEXIBLE LEARNING
MATHEMATICS	LEARNING METHODS
GCSE	OPEN LEARNING
MONEY MANAGEMENT	PUPIL CENTRED LEARNING
STATISTICS	INDEPENDENT LEARNING
REVISION AIDS	

TITLE DESCRIPTORS:

GCSE	MODULAR MATHEMATICS
MODULAR	GCSE MODULAR MATHEMATICS
MATHEMATICS	FL SOUTH EAST REGION

AGE PHASE DESCRIPTORS:

SECONDARY	POST 16
UPPER SECONDARY	

MEDIA DESCRIPTORS:

PRINTED	WORKSHEET
BOOKLET	TEACHER NOTES

PUBLISHER DESCRIPTORS:

SOUTH EAST REGION FL PROJECT

ADMIN. DESCRIPTORS

FFLEX	U199110
RFL196	L199110
E199109	

RECORD NUMBER

1037054353

Flexible Learning File: Full-text Record
TITLE: FLEXIBLE LEARNING: A CASE STUDY, WILLOWGARTH HIGH SCHOOL

MEDIA: Report
AUTHOR: Mellor S., Fewster S.
SERIES: FL in Yorks & Humberside
EDUCATIONAL CONTENT:

The Project problem solving in Design Technology using the context of modern foreign languages has been trialled with two sets of Year 9 pupils (ie 14 year olds). The first trial occurred between January and March of 1990, the second trial took place between April and June of 1991. In both cases the project lasted 16 curriculum hours taken from the allocation of Technology time and 1 further hour of Modern Languages curriculum time. The second trial was more successful, and therefore the majority of this document concerns itself with this second trial, which has become the blueprint for future projects.

EXTENSION: Full resource (4pp A4).

AGE PHASE: Teachers and advisors of 11 - 16 age groups.

AVAILABILITY:

Only available on NERIS.

For further information. Contact: Flexible Learning Project

ADDRESS: York Education Centre, Park Grove, York YO3 7ED

TEL: 0904 627581

MAILBOX: CAMPUS 01: YPA007

EXTENSION:

This material has been produced by the National Flexible Learning Development Project and is intended for use in a student-centred context. Information and assistance on this point can be obtained from your Regional Flexible Learning Coordinator. Details of names, addresses and telephone numbers are available on NERIS. To find these search the database for the titles FL and REGIONAL and the media CONTACT.

The Flexible Learning Project

Barnsley LEA

Willowgarth High School

Design Technology and Modern Languages

Problem Solving in Design and Technology using the context of Modern Foreign Languages

The Flexible Learning Project at Willowgarth High School has been trialled with two sets of Year 9 pupils (ie 14 year olds). The first trial occurred between January and March of 1990, the second trial took place between April and June of 1991. In both cases the project lasted 16 curriculum hours taken from the allocation of Technology time and 1 further hour of Modern Languages curriculum time. The second trial was more successful, and therefore the majority of this document concerns itself with this second trial, which has become the blueprint for future projects.

Pupil Groupings

There were between 35 and 40 pupils accompanied by two Technology staff participating in the project each time. The Head of Modern Languages was involved throughout the project as both a consumer and a consultant.

At times the pupils worked individually whilst at other times they worked in pairs or groups of three. Grouping by friendship rarely occurred. Groups tended to form out of necessity or by coincidence, ie pupils wanting to do the same sub-task at the same time. This meant that the groups were often mixed sex and always mixed ability, so that a range of outcomes were achieved, deriving from a range of pupil experiences.

Assessment

The Technology department uses a B4 Record of Achievement for each pupil, based on the National Curriculum. When a student achieves one of the outcomes of the Record of Achievement, the pupil approaches the member of staff, and after negotiation, the work and ROA are both date stamped. Any pupil can achieve any Attainment Target level between 2 and 7 at any time.

Detailed Structure of Course

The reasoning behind the structure of the course and the learning process experienced by the students was that this project had to be totally compatible with the requirements of National Curriculum Technology.

Lesson 1 (2 hours)

This was an introduction/stimulus lesson. The pupils spent around 20 minutes brainstorming

teaching methodology. Each method was briefly evaluated. We expected some pupils to make subjective comments regarding particular members of staff, but our fears were unfounded, all pupils performed this task objectively.
Following this pupils were asked to evaluate at least five other teaching methods. Each method had two resource examples, one of which had deliberately been produced to include inherent flaws.
Teaching methods on display to the pupils were:-
- 2 video tapes of Science demonstrations,
- 2 computer games,
- 2 card or board games,
- 2 OHP transparencies,
- 2 worksheets,
- 2 audiosynchrofax worksheets,
- 2 audio cassette tapes,
- 2 posters,
- 2 text books/leaflets,
- 2 photographs,
- 2 flashcards.

Each pupil completed a table to evaluate each of the 5 chosen examples with regard to;
- interest,
- cost,
- ease of making,
- suitability,
- frequence of use.

Lesson 2 (2 hours)
This was introduced by the consumer, ie the Head of Modern Languages, who informed the students of the problem to be solved. The first trial was concerned with teaching the French vocabulary associated with the module 'Going Out'. The second was that included in the unit on 'Clothes', both topics taught to Year 8 pupils. This introduction was deliberately kept short so that as few constraints as possible were placed on the imagination and ideas of the students. The students brainstormed ideas about their topic and classified these into separate areas. Each of these separate areas was evaluated by the students as to the general suitability for Year 8 pupils, the availability of suitable resources and the ease with which new ones could be made. Students then wrote a brief, which outlined their task and identified their solution, ie the subject and the method of delivery chosen, and the audience level at which they were to aim. The plans were presented to the consumer for his approval and were modified accordingly. In practice, nothing was totally rejected, but all the design briefs were amended by the students to a greater or lesser degree, some independently and others after guidance. The students also explained the reasoning behind their amendments.
The students were given 'hands-on' lessons regarding the use of IT as a means of improving the aesthetics of the finished product, using a variety of computer hardware and software, so that throughout the rest of the project, pupils used the equipment which was appropriate to their particular need.
Lesson 3-7 (10 hours)
These lessons were spent in the Technological process of research that is:-
- splitting the task into sub-tasks,
- generating ideas,
- deciding on the optimum solution for each sub-task,
- developing the best ideas for realising their solution.

Evaluation was built into the process at all levels. One of the philosophies of the Design and Technology department is that pupils should become as independent as possible, as soon as possible. In order to achieve this time and money was spent in producing a range of 'Teach Yourself How to Use ... ' resources for the students. These have been produced in association with the Special Needs department at Willowgarth High School and the Advisory Teachers for Effective Learning.
All students amended their designs as they proceeded, and with each change, they were encouraged to evaluate and justify their reasons for the changes. Once they had realised their solution, the students produced a questionnaire, which would allow them (and us) to determine

whether their solution had been successful.

Lesson 8 (1 hour)

This was the trial which took place in Modern Languages curriculum time. The Technology students tested their solutions on Y8 pupils and observed the associated problems/successes. Each solution was trialled with pupils of varying abilities and the Technology students recorded their observations.

Lesson 9 (1 hour)

The students completed their evaluation of the trial, and suggested improvements to their work, accompanied by their justifications for these improvements. The pupils gave an oral report to their peers reading their own performance.

Evaluation of Projects

The success/failure of the project has been determined in several ways.

1. Resulting from questionnaires completed by some of the teaching staff, both before and after the project, we found that computers were used in 9% of lessons throughout the school. Raising the Y9 pupils' awareness of the IT available in school has meant that these pupils are around 30% more likely to ask to use IT for presentation of work (including homework), compared to those Y9 pupils who have not experienced the project.

2. Several observations (some independent) of the Technology lessons for these Y9 pupils have shown that over 90% of pupils are consistently on task. We find this figure especially satisfying when one considers that all Technology lessons are 2 hours long and the mixed ability groups contain pupils of a widely differing ability, attainment and motivation.

3. Most of the Year 9 pupils have been interviewed in small groups regarding the project by a member of the technology department. They were asked about their enjoyment of the project, their interest and if they felt that they had gained any benefits from their experience. The following statements are taken from transcripts of the interviews:-

'I thought the project was good, because I sent off a letter to a French holiday company about skiing and they sent me a lot of posters that I could use.' Peter (lower ability pupil)

'I thought the project was OK. It involved drawing, which I like. I found out lots more French words, which I didn't know. If I was going to a French football game, I would know exactly what to do.' Ryan (pupil of average ability)

'I thought the French project was good, because it helped them (Y8) with their French work. It was also good for me, as it taught me new French words.' Carole (able pupil)

Quotations from Y8 Modern Languages pupils

'The poster was easy, I answered all of the questions. The game was also easy ... I would like more time to practise these.' Neil (able pupil)

'I listened to the tape. Most of it was quite easy and I understood most of it ... I would have liked more time with the game and the other activities.' Kristian (able pupil)

'I played a game like Happy Families ... it was quite easy. I would have liked to have more time to play the computer game. I found it useful.' Kerry (able pupil)

These are obviously a representative selection of the comments, but there were no comments significantly less enthusiastic than that of Ryan. The Y8 pupils were very receptive to the teaching resources made by Y9 and were eager to sample as many of the methods as time permitted. Many lower and middle ability Y8 pupils wanted to show off their French capabilities to the Y9 pupils and were eager to have second (or third or fourth ...) attempts if their first proved to be unsuccessful.

All Y9 pupils gained IT experience, and experienced speaking in public. There was universal agreement from these pupils that they had benefitted from these activities.

4. There has been a significant increase in the French vocabulary of the middle and lower Y9 pupils. Fewer of the more able Y9 pupils stretched themselves in this area, they concentrated on the vocabulary they knew already.

5. Our success within school has been noted, and there are negotiations in progress for future projects to link with Science, Special Needs, Geography and Music. The excellent cooperation between Modern Languages and Technology means that the next two joint operations between these departments are now written into next year's calendar.

Willowgarth High School is more than happy with the outcome of this project. It will be the basis for many similar cross-curricular developments within the school in the future. However, it is essential to point out that its success has depended on the Modern Languages department and the Technology department working closely together, invaluable help from the Special

Needs department at Willowgarth and the Advisory Teachers for Effective Learning and finally, the Management Team at the school who have allowed flexibility in the timetable so that the project could reach fruition.

Contact Persons:-

Peter Fairhurst, John O'Neill, Tony Loveday, Willowgarth High School

CONTENT DESCRIPTORS:

LEARNING METHODS	MODERN FOREIGN LANGUAGES
FLEXIBLE LEARNING	LEARNING MATERIALS
PROJECTS	EDUCATIONAL TECHNOLOGY
CASE STUDIES	INFORMATION TECHNOLOGY
YORKSHIRE AND HUMBERSIDE	EVALUATION
WEST YORKSHIRE	RESEARCH
PROBLEM SOLVING	CROSS CURRICULAR EDUCATION
TECHNOLOGY	BARNSLEY
DESIGN AND TECHNOLOGY	

TITLE DESCRIPTORS:

BARNSLEY	FL IN YORKS & HUMBERSIDE
FLEXIBLE	WILLOWGARTH
LEARNING	HIGH
CASE	SCHOOL
STUDY	HIGH SCHOOL
FLEXIBLE LEARNING	WILLOWGARTH HIGH SCHOOL
CASE STUDY	

AGE PHASE DESCRIPTORS:

SECONDARY	UPPER SECONDARY
LOWER SECONDARY	

MEDIA DESCRIPTORS:

PRINTED	REPORT

AUTHOR DESCRIPTORS:

MELLOR S.	FEWSTER S.

PUBLISHER DESCRIPTORS:

NERIS

ADMIN. DESCRIPTORS

FFLEX	E199109
RFL248	U199110
TEXT	L199110

RECORD NUMBER

1037054360

OUTPUT

Print and Computer-based Products:

The NERIS database is accessible online and on CD-ROM.

Since 1988, the NERIS database has been accessed direct from the NERIS Trust. Access for institutions of higher education is also provided through the Joint Academic Network (JANET), which connects users to the Open University's Videotex Service. Public online access was also offered in 1988 through the Prestel Education Service provided by British Telecom, and later through CAMPUS 2000, Priory House, St John's Lane, London, England EC1M 4BX, although this was terminated in February 1992.

From April 1989, the NERIS database became available on one CD-ROM marketed by the NERIS Trust.

Publications and Publicising Aids:

The NERIS Trust publishes the *NERIS Curriculum Thesaurus*, a 140-page guide entitled *NERIS On-line*, a 58-page guide entitled *NERIS on CD-ROM*, a set of two quick reference guide cards entitled *Basic Search System* and *Extended Search System*, a five-page information brochure, *Into the '90's with NERIS*, a ten-page information booklet on the NERIS, entitled *NERIS ... The National*

Service that Supports the Teaching of the Whole Curriculum, a set of information sheets, entitled *Background Information, What Equipment Do I Need?, Subscription Rates U.K. Prices, NERIS for Schools outside the United Kingdom, NERIS on CD-ROM Overseas Price*, and a newsletter, *NERIS News*, three times a year.

With funding provided by the Department of Education and Science, the NERIS Trust produced and disseminated to schools a set of five information cards titled *Getting Maximum Value from NERIS: Managing NERIS in Schools* presenting a sequence of three steps for using the NERIS database effectively and checklists for principals and NERIS coordinators, *Finding Materials for a Specific Topic* describing the process for using the NERIS database to identify curriculum materials on a particular topic, *Starting Points for Resourcing Cross Curricular Themes* matching terms from the NERIS Curriculum Thesaurus with themes identified by the National Curriculum Council as augmenting the core and foundation subjects of the National Curriculum, *CD-ROM Reference Card* presenting guidelines for searching the CD-ROM version of the NERIS database for resource materials related to the National Curriculum, and *On-Line Reference Card* presenting guidelines for searching the online version of the NERIS database for resource materials related to the National Curriculum.

Microforms and Source Documents:
No microforms are produced. Source materials are not held by the NERIS Trust.

Source materials are available from distributors as detailed in records.

Access:
The NERIS Trust markets the *NERIS Curriculum Thesaurus*, the *NERIS On-line*, the *NERIS on CD-ROM*, the quick reference guide cards, and five information cards for no charge. Additional copies of the *NERIS Curriculum Thesaurus* are marketed for 15.00 pounds sterling.

Clients pay an annual subscription to the NERIS Trust for direct online access to NERIS On-Line, together with the cost of a local telephone call for each access. The subscription for individual institutions is 300.00 pounds sterling plus VAT, with discounted subscriptions for primary and special schools of 99.00 pounds sterling plus VAT, and for secondary schools and colleges of further education of 215.00 pounds sterling plus VAT. This product includes *NERIS On-line*, the demonstration sample file, and the *NERIS Curriculum Thesaurus*. A half-price direct online subscription is offered to CD-ROM subscribers who wish to have both types of access. Discounts are available for group subscriptions made by either local education authorities or schools.

A demonstration sample file of the NERIS database, together with simulation software suitable for BBC microcomputers, is available from the NERIS Trust.

The CD-ROM version of the NERIS database is marketed by the NERIS Trust for an annual subscription of 300.00 pounds sterling plus VAT to individual institutions in the United Kingdom, with a discounted subscription of 240.00 pounds sterling plus VAT for schools and colleges of further education in the United Kingdom. The CD-ROM version is also offered to foreign subscribers for single site use. This product includes the NERIS database on one CD-ROM, three updates each year, *NERIS on CD-ROM*, and the *NERIS Curriculum Thesaurus*. NERIS on CD-ROM is available with Digital Research GEM System Software for IBM PC, PC/XT, PC/AT or PS/2 and compatibles with hardware requirements of 512K of RAM for IBM CGA systems or 640K of RAM for IBM EGA/VGA systems and MS DOS CD-ROM extensions. From April 1992, Microsoft Windows version 3.0 became available for IBM PC/AT and PS/2 systems with a minimum of 1 MB RAM. NERIS on CD-ROM is also available for Apple Macintosh with a minimum of two MB RAM, a version 1.2.2 or later, a floppy disk drive, and a CD-ROM drive. The CD-ROM version is currently used by 64% of users, and is expected to increase to a plateau level of 85% or 90% due to the provision of grant aids for local education authorities to purchase CD-ROM players and applications. The NERIS Trust charges 25.00 pounds sterling to convert an online service to a CD-ROM service.

Products and services are available without restrictions.

Client Groups:
The intended users of the NERIS database are specified to be teachers, lecturers, curriculum consultants, librarians, teacher-librarians, media specialists, and students.

The NERIS database has been widely used throughout the United Kingdom since 1988 through direct on-line access from the NERIS Trust, Prestel's CAMPUS 2000, and on CD-ROM. *NERIS News* (Spring 1992) reported that the NERIS database was being used by every local education authority in the United Kingdom.

REFERENCES
Bibliography:
Bailey, R.
'How can NERIS support chemistry teachers?'
Chemistry, 26: 1, 6-7 (1989)

Bailey, R. and Bevan, D,
'ASE becomes a NERIS node'
Education in Science, 126, 24 (1988)

Evans, N.
'What price NERIS?'
The Times Educational Supplement, 23 March 1990, B44
Discusses funding issues relating to the NERIS database, concluding that the service should not rely upon subscriptions but be publicly funded.

Fletcher, D.
'Log on (a preview of NERIS, National Educational Resources Information Service)'
Educational Computing, 8: 1, 16 (1987)

Geographical Association
'Support for the teacher: an introduction to services provided by NERIS'
Teaching Geography, 13: 4, 162-163 (1988)
Describes the main features of the information service provided by the NERIS Trust, and its value to geography teachers.

Taylor, D.
'IT in support of the teacher and the pupil: educational databases'
NUT Education Review, 2: 1, 55-59 (1988)

Wright, B., Ballantyne, K., Tearle, P. and Fima, D.B.
'Using the NERIS database to enhance teaching mathematics'
Teaching Mathematics and its Applications, 7: 2, 101-105 (1988)
Describes the development of the NERIS database, the activities of the Centre for Innovation in Mathematics Teaching at the University of Exeter as the NERIS Node for mathematics and interactive video, and presents examples of records in the NERIS database.

Contact:
Taylor, D.
personal communication (1992)

David Taylor is the Chief Executive for the National Educational Resources Information Service (NERIS).

8

NORTHWEST REGIONAL EDUCATIONAL LABORATORY (NWREL)

Agency:
Northwest Regional Educational Laboratory (NWREL)

Address:
101 S.W. Main Street, Suite 500, Portland, OR 97204, U.S.A.

Phone: (503) 275 9500

Facsimile: (503) 275 9489

Foundation Date.
1966

Governance and Funding:
The NWREL is one of ten regional educational laboratories supported by the Office of Educational Research and Improvement (OERI), United States Department of Education. The NWREL is governed by a board of directors, consisting of 38 members appointed by member institutions from the region of Alaska, Idaho, Montana, Oregon, and Washington. American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Hawaii, Republic of the Marshall Islands, and Republic of Palau were formerly members of the NWREL, administered through the Center for the Advancement of Pacific Education located in Honolulu, which became a separate laboratory in 1990, renamed the Pacific Region Educational Laboratory (PREL).

The NWREL is funded from seven main sources: by contracts with the Office of Educational Research and Improvement, United States Department of Education; by contracts with other units of the United States Department of Education; other federal, state and territory agencies; local and intermediate education agencies; colleges and universities; business and other organisations; and revenues from registration fees and sales of products and publications.

Mission and Programs:
The mission of the NWREL is to help others improve outcomes for children, youth, and adults by providing research and development assistance to schools and communities in providing equitable, high quality educational programs. This mission is accomplished through ten programs: the Center for National Origin, Race, and Sex Equity; Education and Work; Evaluation and Assessment; Institutional Development and Communications; Literary, Language, and Communications; Planning and Service Coordination; R&D for Indian Education; School Improvement; Technology, which managed the RICE database; and the Western Center for Drug-Free Schools and Communities.

The activities of the Technology Program are to develop and disseminate effective applications of technology, conduct research on the application of technology to educational needs, evaluate the effectiveness of technological applications in educational programs, and conduct training and demonstrations of applications of technology. The Technology Program maintains an Information and Demonstration Center, which conducted software evaluation activities and provided information to the educational community in the Northwest region on computer software suitable for K-12 grade levels through the RICE database and MicroSIFT reports.

PROGRAM ORGANISATION

Database Title:
Resources in Computer Education (RICE)

Type:
Bibliographic records contained indexes with descriptive abstracts and citations to evaluative ratings.

Language:
English

Structure:
The RICE database contained records of computer courseware, videodisc products, CD-ROM products, and software producers.

Scope:
computer software, videodiscs, CD-ROM products, and software producers

Service Operated:
1984 -1990

Service Provision:
The RICE database was provided by an offline search application, and by computer diskette application.

DEVELOPMENT
Origin:
The RICE database was developed as part of the Microcomputer Software and Information for Teachers (MicroSIFT) Project, a clearinghouse located within NWREL's Technology Program, which also produced the *MicroSIFT Report*, a quarterly publication reviewing products in specific areas of instructional use of the computer, and *New & Promising*, a biennial publication highlighting new products. The first major activity of the MicroSIFT Project was to develop and implement an evaluative process. A booklet, entitled *The Evaluator's Guide* was produced, which included criteria and processes, and regular evaluation activities were carried out by classroom teachers. The MicroSIFT Project developed two instruments, which provided scope to analyse microcomputer courseware: MicroSIFT Courseware Description for providing bibliographic information, specifying objectives and prerequisites, and describing the content and structure of computer courseware; and MicroSIFT Courseware Evaluation for evaluating the content characteristics, instructional characteristics, technical characteristics, quality, recommendations, describing the potential use of the courseware in classroom settings, estimating the time of student use to master the courseware's objectives, the courseware's strengths, weaknesses, and other comments.

The second major activity was to develop the RICE database as a means of recording the evaluations. The development of the RICE database began in 1982, taking a total effort of two persons over two years with funding provided by the Office of Educational Research and Improvement, United States Department of Education. It was designed initially for the online information retrieval system of BRS Information Technologies, and made available nationally on that system. In order to reduce costs and to provide faster updating, it was redesigned in 1986 to reside on an Apple Macintosh II microcomputer using dBase Mac. In 1988, educational technology specialists in the NWREL's region expressed interest in being able to offer the same search service at regional centres throughout the Northwest. An end-user version, comprising a set of seven computer diskettes for use with a Macintosh SE, or preferably a Macintosh II, microcomputer with at least 1 megabyte of internal memory, a 20 megabyte hard disk drive, System 6.02 or higher, and a LaserWriter printer, was developed in 1988, and installed at 21 sites in Washington, Hawaii, and Oregon in early 1989 for an annual subscription fee.

Trialling and Evaluation Activities:
Evaluations of the content of the RICE database indicated that the total effort resulted in only about 20% of the available software being evaluated, because of lack of resources (Weaver and Holznagel, 1984). Therefore, the evaluations became outdated, which led to the adoption of an approach of finding out what was available at any given time, and timeliness became the key standard for entering items into the RICE database.

Pilot testing of the computer diskette version was conducted in regional service centres in Washington and Hawaii, school districts in Oregon, and a state centre in Hawaii as part of the

activity to develop the end-user version of the RICE database. Feedback from users was used in a revision. User reports indicated that the major concern was that the speed of searching was slow. The MicroSIFT Project tried various ways to increase speed, including reducing information on outputs and limiting the number of terms in a single-search strategy.

Resources:
The maintenance of the RICE database content required the assignment of one full-time person to the update function to maintain maximum accuracy and currency. However, because of limited funds, the MicroSIFT Project used the equivalent of about half of a full-time employee who spent 75% of the time on data entry and 25% of the time on contacts with software producers.

Training:
Training was provided to staff members in pilot sites only. No requests for training were received from purchasers of the end-user version.

Prospective Products and Services:
The NWREL no longer distributes either the RICE database or reports from it. The MicroSIFT Project, which supported it, was part of the NWREL's ten-year contract with the United States Department of Education, which was terminated on November 30, 1990. The focus of the new five-year contract is on telecommunications and distance education.

INPUT
Sources:
Sources of input were documents supplied by producers containing descriptive information, evaluation reports from public agencies and private companies containing software evaluations, and the MicroSIFT Project's evaluation activities.

Selection Policy:
Information on any software product was selected, if it was designed for instruction, or could be made useful for instruction at the primary or secondary levels. Software had to be currently obtainable by schools.

Entry Processes:
The evaluative process involved school-based evaluators analysing each product according to criteria specified on the MicroSIFT Courseware Description Form and the MicroSIFT Courseware Evaluation Form. The evaluations were returned to the MicroSIFT Project, and entered into the RICE database by project staff.

Entry processes during editing involved marking a printout of all records with edits, and entry was done directly in an update version of the database using facilities in dBase Mac.

Controlled Terminology:
A set of selected terms in curriculum and other areas was adopted from the *Thesaurus of ERIC Descriptors*, and specific terms relevant to the software and hardware fields were added as needed. The controlled vocabulary used contained terms for specifying grade levels, hardware, special audience or medium (including software types), and a topic list.

HOLDINGS
Record Numbers:
In 1990, the RICE database contained 6100 courseware records including 500 records of videodisc and CD-ROM products. In addition, the RICE database contained 800 records on software producers.

Updating:
The RICE database was updated annually. To spread the update load evenly, a strategy of sending an update request letter quarterly to one-fourth of the producer list was used. Records were purged after three years, unless they had been replaced by new versions.

The end-user version was replaced by an update copy quarterly.

Coverage:
The RICE database covered a three-year period at any given time.

Search Strategy:
Clients, requesting an offline search of the RICE database, were provided with a RICE Search Order Form, on which they specified the requirements of their search according to criteria that reflected the controlled vocabulary.

The RICE database was searched in two ways: by specifying the terms stated by the requestor for a keyword, grade level, software type for a screen report in response to screen prompts; and by specifying a record number to obtain a report on a particular record.

Record Samples:
Screen Report:

Keyword: Math Grades: 0-6 System: MSDOS

No.	Title	Producer	Hardware	Price
	1st Math	Stone & Associates	IBM PC/PCjr 128K, Atari ST	$39.95
	2nd Math	Stone &	IBM PC 128K	$49.95
	Addition, Subtraction, Multiplication	Educational Program Devt.	Apple IIe, DOS 3.3; IBM PCjr, DOS 2.X	$35.00
2972	Adventure Alpha	Milliken	Apple II family 48K, Atari 800 48K, IBM C/PCjr 128K	$34.95
	Adventures in Math	IBM	IBM	$32.00

Software Record:
Number: 2972 Title: Adventure Alpha
Updated: 10/23/89 Producer: Milliken
Grade: 6-12 Keyword: Math System: MSDOS
Hardware: Apple II family 48K, Atari 800 48K, IBM PC/PCr 128K
Price: $34.95 No. Disks: 1 Series $: No./Series: 1
Lab PK $: No. Sets: Backups: $15.00 Network:
Reviews: New package
Abstract: Students search the planet Alpha for the hidden treasure of the Alphans using logic and math skills to solve secret codes, riddles and other puzzles.

Producer Record:
Abbrev.: Milliken
Publisher: Milliken Publishing Company
Update: 10/23/89
Contact: Christine M. Johnston & Chuck Eisenberg
Phone: 314/991-4220 800/643-0008
Address: 1100 Research Blvd. - P.O. Box 21579
City: St. Louis State: MO Zip: 63132-0579
Comment:
Policies: Disks guaranteed for 90 days; after ninety days, disks will be replaced f
Quantity discounts available to schools and school districts

The RICE database cited under the field, Reviews, information on reviews of computer courseware

published by fourteen sources: *Computer Courseware Evaluations*, a directory published by Alberta Education, 12360 142 Street, Edmonton, Alberta T5L 4X9, Canada; *Apple Guides*, a directory published by Apple Computer, Inc., PO Box 1834, Escondido, CA 92025, U.S.A.; *California TIC Guides*, a directory published by the California State Department of Education, PO Box 944272, Sacramento, CA 95802, U.S.A.; *The CHIME Newsletter*, a bimonthly published by the Oklahoma State University, 108 Gundersen Hall, Stillwater, OK 74078, U.S.A.; *EPIE PROFILES*, published by the EPIE Institute, PO Box 839, Water Mill, NY 11976; *The Parents' Guide to Highly Rated Educational Software*, a list published by the EPIE Institute, PO Box 839, Water Mill, NY 11976; the *High/Scope Survey of Early Childhood Software*, published annually by the High/Scope Educational Research Foundation, 600 N. River Road, Ypsilanti, MI 48198, U.S.A.; *MECC Videodiscs for Education: A Directory*, published by the Minnesota Educational Computing Consortium, 3490 Lexington Avenue N., St. Paul, MN 55126, U.S.A.; MicroSIFT evaluations and reports; a list of software titles approved by the Minnesota Department of Education, 682 Capitol Square Building, 550 Cedar Street, St. Paul, MN 55101, U.S.A.; *The Educational Software Preview Guide*, a periodic publication of the International Society for Technology in Education, University of Oregon, Eugene, OR 97403, U.S.A.; *Only the Best*, a list published annually by Education News Service, PO Box 1789, Carmichael, CA 95609, U.S.A.; results of the Software Evaluation Exchange Dissemination project sponsored by the Southeastern Educational Improvement Laboratory, PO Box 12746, Research Triangle Park, NC 27709, U.S.A.; and the results of the SpecialWare Database, LINC Resources, Inc., 3857 N. High Street, Columbus, OH 43214, U.S.A.

OUTPUT

Print and Computer-based Products:

The RICE database was accessible offline.

The NWREL provided offline access to the RICE database through a telephone search service. The number of options for standard output formats provided by the offline search application varied during the project, but the most useful were custom reports, based upon search parameters specified by requestors, which generated screen reports, software records, or producer records.

The end-user version of the RICE database, contained on seven computer diskettes, was available for purchase from NWREL during 1989 and 1990.

Publications and Publicising Aids:

The MicroSIFT Project published articles on the RICE database in periodicals, and sent letters to 8,000 school districts in the United States. Clients, requesting a search of the RICE database, were provided with a one-page RICE Search Order Form.

The MicroSIFT Project produced a one-page brochure, *Resources in Computer Education (RICE)*, to market the computer diskette version of the RICE database. A manual was developed for those agencies, which purchased the RICE database for local use, to install and operate it. These agencies publicised the availability of searches to their constituents.

Microforms and Source Documents:

No microforms were produced. Source materials were not held by the NWREL.

Source materials were available from distributors as detailed in records.

Access:

Clients paid a fee of $US 15.00 for each report from the offline search application, with specialised reports being made available for a negotiated fee.

The end-user version of the RICE database was marketed for $US 300.00. This product included the search software, the set of seven computer diskettes, and the manual for installation and startup. A demonstration sample package, containing information on approximately 500 science packages, was available for preview at $US 4.00.

There were no restrictions placed upon reproduction of reports.

Client Groups:
The clients were primarily teachers and curriculum personnel in schools, school districts, and other educational service agencies in Alaska, Idaho, Montana, Oregon, and Washington. The RICE database was also used by many outside the region as well.

REFERENCES
Bibliography:
Garnette, C.P. and Withrow, F.B.
'Research notes: OERI's regional laboratory technology efforts'
Journal of Educational Computing Research, 5: 2, 253-262 (1989)
ERIC EJ 398 005
Examines various educational technology projects that regional educational laboratories are undertaking. Includes an account of the MicroSIFT project.

Jolicoeur, K. and Berger, D.E.
'Do we really know what makes educational software effective? A call for empirical research on effectiveness'
Educational Technology, 26: 12, 7-11 (1986)
ERIC EJ 347 684
Examines the methods used by the EPIE Institute and the MicroSIFT project at the Northwest Regional Educational Laboratory to evaluate microcomputer courseware, but found a low correlation between their recommendations.

Northwest Regional Educational Laboratory
Evaluator's Guide for Microcomputer-based Instructional Packages
Portland, OR: Northwest Regional Educational Laboratory (1986)
ERIC ED 277 359; earlier editions reported as ERIC ED 206 330, ERIC ED 240 699
Presents a guide, developed by the MicroSIFT project, to provide background information and forms to aid teachers evaluate available microcomputer courseware.

Weaver, D.
The State of Educational Software: A MicroSIFT Report
Portland, OR: Northwest Regional Educational Laboratory (1989)
ERIC ED 317 159
Reports a longitudinal study comparing data of 1984 and 1989 on microcomputer courseware contained in the RICE database.

Weaver, D. and Holznagel, D.
An Analysis of Available Courseware
(Reports to Decision Makers, No. 3)
Portland, OR: Northwest Regional Educational Laboratory (1984)
ERIC ED 248 881
Reports a longitudinal study on microcomputer courseware contained in the RICE database.

Contact:
*Holznagel, D.C.
personal communication (1991)

*Donald C. Holznagel is the Director of the Technology Program at the Northwest Regional Educational Laboratory.

8
ONTARIO MINISTRY OF EDUCATION

Agency:
Ontario Ministry of Education, Centre for Curriculum Resources and Technologies

Address:
Mowat Block, 24th Floor, Queen's Park, Toronto, Ontario M7A 1L2, Canada

Phone:
(416) 325-2160

Foundation Date:
1846

Governance and Funding:
The Ontario Ministry of Education consists of four divisions: Corporate Planning and Policy; Administration; Learning Programs, which manages the ONTERIS database; and Learning Services.

The Ontario Ministry of Education is funded by public funds.

Mission and Program:
The Division of Learning Programs consists of seven branches: the Learning Programs Secretariat; the Centre for Early Childhood and Elementary Education; the Centre for Secondary and Adult Education; Special Education and Provincial Schools; the Centre for Curriculum Resources and Technologies, which manages the ONTERIS database; the Independent Learning Centre, which provides a home-study program for Ontario residents; and the Centre for Teacher Education.

The mission of the Centre for Curriculum Resources and Technologies is to provide and support leadership in the development and use of new technologies in education. This mission is accomplished through five main activities: software development; the 'ambience' program providing student access to computer-based technologies; videodisk development; applying requirements for grant-eligible microcomputer systems; and managing the ONTERIS database.

PROGRAM ORGANISATION
Database Title:
Ontario Education Resources Information System (ONTERIS)

Type:
Bibliographic records contain indexes with descriptive abstracts.

Languages:
English and French

The files of the ONTERIS database contain records in English for English-language documents and materials, and French for French-language documents and materials.

Structure:
ONTERIS is available in an on-line version as ONED in four subfiles.

(i) Curriculum: Contains records of curriculum guidelines, manuals, and other documents of a pedagogical nature. Record numbers begin with CD.

(ii) Learning Materials: Contains records of various curriculum materials which support the primary- and secondary-level curriculum, such as, C14 textbooks, computer-based learning materials, and TVOntario program services. Record numbers begin with LM.

(iii) Research and Reports: Contains records of research funded by the Ontario Ministry of Education, board research, position papers, and statistical reports. Record numbers begin with ON.

(iv) Commissions and Special Projects: Contains records of reports related to Ministry-funded commissions, reviews, and projects. Record numbers begin with ARCH.

Scope:
educational research based in Ontario and Canadian curriculum materials

Service Established:
1970

Service Provisions:
The ONTERIS database is provided by online application through an information retrieval service by a host organisation, by micrographic application, by optical publishing application, and a document delivery service is offered by the provider.

DEVELOPMENT
Origin:
Information on the origin of the ONTERIS database is unavailable.

Trialling and Evaluation Activities:
Information on trials and evaluation activities of ONTERIS database is unavailable.

The CD-ROM version of the ONTERIS database was pilot-tested at nineteen sites, including faculties of education and school boards.

Resources:
The ONTERIS database is managed by a staff of one full-time management professional, seven full-time and one part-time information professionals, three full-time technicians and one full-time clerical. Information on other resources is not available.

Training:
Information on the training of information professionals, technicians and clerical staff members employed by the Ontario Ministry of Education on the ONTERIS is unavailable.

The Centre for Curriculum Resources and Technologies provides assistance on an individual basis to users accessing the ONTERIS database by means of a telephone customer service, and also provides presentations, search demonstrations, sample searches, and search training workshops on the ONTERIS database for users.

BRS Information Technologies provides training sessions throughout the United States, Canada, Europe and Australasian region for new, experienced and specialised users. Tailored training courses can be arranged to cater for the needs of individual organisations. One-day introductory and half-day advanced training programs for users of the BRS Search Service are currently available in Australia at Sydney, Melbourne, Canberra, Adelaide, Brisbane, Perth, and Hobart.

Prospective Products and Services:
No prospective products are being developed at present in relation to the ONTERIS database.

INPUT
Sources:
Documents are collected from the following sources: the Curriculum subfile includes information on documents produced by the Ontario Ministry of Education and by Ontario school boards, curriculum documents produced by the Ontario Institute for Studies in Education (OISE), teachers' associations and other educational organisations; the Learning Materials subfile includes information on documents produced by commercial publishing houses designed for use by students in Ontario

schools; the Research and Reports subfile includes information on documents produced by Ontario school boards, and the Ministries of Education and of Colleges and Universities, TVOntario, the OISE, teacher's associations, and other educational organisations, other agencies and authorities; and Commissions and Special Projects subfile includes information on documents generated by Ministry-funded commissions, reviews and projects.

Selection Policy:
The selection policy is based upon document types. Both English and French documents included in the ONTERIS database comprise the following types: research reports; curriculum guidelines; curriculum materials; reports and papers including committee, task force, and working group reports; conference papers and proceedings; statistical analyses; policy statements, position papers and briefs; literature and research reviews; and bibliographies. Documents excluded from the ONTERIS database comprise the following types: annual reports of organisations; legal documents; progress reports of research; journal articles; and curriculum documents submitted to the Centre franco-ontarien de ressources pedagodies.

Entry Processes:
Information professionals at the Centre for Curriculum Resources and Technologies catalogue, subject index, abstract or annotate all submitted documents. These descriptions are entered into the ONTERIS database. A magnetic tape of the ONTERIS database is sent to BRS Information Technologies on the basis of regular updates.

Controlled Terminology:
The controlled vocabulary consists of terms used for the following fields: terms for Curriculum Subjects (DE) are used in the Curriculum and Learning Materials subfiles; terms for Education Levels (EL) are used in the Curriculum and Learning Materials subfiles, and as well in the Research and Reports subfile when indicated in the document; terms for Geographic Sources (GS) are used in the Curriculum and Learning Materials subfiles; terms for Material Type (MT) are used in all subfiles; terms for Subfile (SF) are used in all subfiles with the Learning Materials subfile containing additional subdivisions representing major collections; and terms for Target Population (TP) are used in the Curriculum and Learning Materials subfiles. The controlled vocabulary is included as Appendix A in the publicising aid, *Database Search Aid: ONED.*

HOLDINGS
Record Numbers:
In July 1991, the Curriculum subfile contained 8800 records, the Learning Materials subfile contained 5300 records, and the Research and Reports subfile contained 5300 records.

Updating:
Online and CD-ROM services are updated three times a year.

Coverage:
The ONTERIS database covers the period from 1970 to the present with selective, retrospective coverage.

Search Strategy:
The fields of ONED records are searched by three procedures. The BRS valued parameter, a way of searching for ranges of numeric values in specially formatted fields, is used for searching the Accession Number (AN), Update Code (UP), and Date (YR). One group of non-numeric fields is searched by free text: Title (TI); Author (AU); Corporate Author (IN); Publication Information (PB); Abstract (AB); Special Features/Components (SC); Tests/Instruments (TE); Notes (NT); and Equipment Required (EQ). The other group of non-numeric fields is searched by terms selected from the controlled vocabulary. The field, Subfile (SF), identifies records in each subfile, although the Learning Materials subfile is provided with further subdivisions. Material Type (MT) is searched in each subfile by different sets of terms; the Descriptors (DE) field is searched by the terms indicating subject areas; Education Level (EL), is searched by the terms reflecting grade levels; Target Population (TP) is searched by terms reflecting different student groups; and Geographic Source (GS) is searched by terms specifying the six administrative regions in Ontario.

Record Samples:

Curriculum Document:

AN CD08204 8904
SF SUBFILE: Curriculum
MT Resource Document
MS Current
LG English
TI Snowshoeing
IN CORPORATE AUTHOR: York Board of Education
PB Toronto
31p.
YR 1989
DE CURRICULUM SUBJECT: Outdoor Education
EL Intermediate Division; Senior Division: Grades 7-12
AB ANNOTATION/CONTENT: This document introduces students to the art of snowshoeing. Opening pages include introductory teaching ideas, followed by notes on construction, proper care, and repair of snowshoes. Notes on the history of snowshoes - styles used by various tribes, and modification of the snowshoes over the years - are followed by suggestions for appropriate dress when snowshoeing. Brief mention of winter hazards and tips and suggestions for walking in snowshoes are detailed, as well as notes on ice thickness and safety, tips for trail safety, a series of snowshoeing activities, and notes on manufacturing. A list of snowshoe makers (Canadian and American) and a bibliography conclude the document.
NT Education levels are not specified in document.
GS Central Ontario
AV MF for reference at deposit libraries.

Learning Materials Document:

AN LM005428. 9008
SF SUBFILE: LEARNING MATERIALS: C14
MT Hardcover book; Textbook
LG English
TI Financial Accounting: An Introduction to Decision Making
AU PERSONAL AUTHOR: Dauderis - Henry
PB Toronto: Holt, Rinehart and Winston
xxxii, 804 p.: ill.
YR 1990
DE CURRICULUM SUBJECT: ACCOUNTING: BUSINESS STUDIES
FUNDAMENTAL CONCEPTS
FINANCIAL STATEMENTS
EL Intermediate Division; Senior Division
AB ANNOTATION/CONTENT: This text is an introduction to financial accounting. It has 16 chapters grouped into 6 parts. The part and some of the chapter headings are: financial statements and the accounting process - GAAP and the accounting process, and GAAP and the operating cycle; the marketing cycle - accounting for merchandising operations, inventory, cash and receivables, and financial statement disclosure; the conversion cycle - fixed assets, and accounting for manufacturing operations; the financing cycle - equity financing, dividend decisions, and debt financing; the investment cycle; and disclosure and financial reporting - financial statements analysis, and statement of cash flow.
Features of the text include definitions of major terms in the margins, real life examples of accounting issues reprinted from news sources, boxed material on conceptual and ethical issues that deal with subjects beyond an introductory level, and numerous assignment materials including discussion cases and questions, and comprehension, review, supplementary, and decision problems. Appendices on worksheets and special journals, endnotes, and indexes complete the text.
SC A self study guide, set of working papers, and a practice set are available for students. A solutions manual, an instructor's manual, and a set of transparencies are available for teachers.

NT 1. 2nd edition. 2. Course codes: BAS and BAC. 3. 1st edition: LM03959
GS Canada
AV $39.96 (educational price for Ontario schools 1990) from Holt, Rinehart and Winston of Canada, 55 Horner Ave., Toronto, Ont., M8Z 4X6, (416 255-4491), ISBN 0039226727, no. C14 7551.

Research and Reports Document:
AN ON05574. 9008
SF SUBFILE: Research and Reports
MT Research
LG English
TI Survey of Attitudes of Staff, students and Parents Guardians toward Sir Oliver Mowat Collegiate Institute
SERIES TITLE: Research report: 89 - 90 - 04
AU PERSONAL AUTHOR: Hale - Marilyn
PB Scarborough: Scarborough Board of Education
iii, 31 p.
YR 1990
DE Secondary schools. Scarborough
Attitudes of parents, students and teachers
AB ANNOTATION/CONTENT: In March 1989, all students and staff at Sir Oliver Mowat Collegiate Institute and a random sample of parents were surveyed with respect to their attitudes towards various aspects of their experience at that school. Responses were received from 75%, 78% and 52% respectively. The staff generally agreed with 13 of the 29 survey statements and there was general disagreement on only 2 of the same. The students were in general agreement with 10 statements and tended to disagree with 2. There were a large number of statements where at least 25% of the parents indicated "don't know - no answer".
A 1-way analysis of variance was run to compare the staff, student, and parent results. A comparison of student results across the 3 grade groups was also done. Generally, the responses of the OAC students differed significantly from the other student groups. Comments made by the parents focused on discipline, exams, alcohol abuse, smoking, and parent-teacher communication. Students' comments dealt with smoking, alcohol abuse, attitude problems, discipline, extracurricular activities, and curriculum. A summary of the results and of the analysis of variance are included in the document.
TE INCLUDED: Self-made questionnaire.
AV MF from Publications Ontario.

OUTPUT
Print and Computer-based Products:
The ONTERIS database is accessible online and on CD-ROM.

Since May 1983, public online access has been provided through BRS Information Technologies, 8000 Westpark Drive, McLean, VA 22102, U.S.A., to the ONTERIS database under the database label ONED.

The ONTERIS database became available in 1991 on CD-ROM as part of CD:Education, marketed by Micromedia Limited, 20 Victoria Street, Toronto, Ontario M5C 2N8, Canada. The CD-ROM version consists of a current disc covering the period from 1970 to the present.

Publications and Publicising Aids:
The Centre for Curriculum Resources and Technologies produces a one-page information brochure titled *Ontario Education Resources Information System ONTERIS*, an eight-page document titled *ONTERIS: Access to Ontario Education Information*, a one-page information sheet titled *Collections Policy*, a one-page information sheet titled *Production and Access*, and a five-page directory, titled *ONTERIS users through BRS Information Technologies*, and a 25-page users aid *Database Search Aid: ONED*.

BRS Information Technologies publishes and distributes an aid page and a database guide for

ONED.

Micromedia Limited produces a four-page information brochure, entitled *Education Resource Information from Canada*, which advertises the ONTERIS database on CD-Education, and produces a user manual and quick-help card for use with CD:Education.

Microforms and Source Documents:
Microfiche of most Research and Reports documents and all Ministry curriculum guides and resource materials is sold by Publications Ontario, 880 Bay Street, 5th Floor, Toronto, Ontario M7A 1N8, Canada. Some Ministry documents, indicated by the code (HC), are also available in paper copy at the same location.

Microfiche collections of Research and Reports, and Curriculum documents are available for reference use at the following depository libraries: Faculty of Education, University of Toronto, 371 Bloor Street West, Toronto, Ontario M5S 2R7; Faculty of Education, University of Ottawa, 651 Cumberland Avenue, Ottawa, Ontario K1N 6N5; Faculty of Education, Queen's University, Duncan MacArthur Hall, Kingston, Ontario K7L 3N6; School of Education, Laurentian University, Sudbury, Ontario P3E 2C6; Faculty of Education, University of Windsor, 600 Third Concession, Windsor, Ontario N9E 1A5; Althouse College, Faculty of Education, University of Western Ontario, 1137 Western Road, London, Ontario N6G 1G7; Government Documents Collection, Brock University Library, St. Catharines, Ontario L2S 7B8; Nipissing University College Library, PO Box 5001, North Bay, Ontario P1B 8L7; Faculty of Education Library, Lakehead University, Thunder Bay, Ontario P7B 5E1; Ontario Institute for Studies In Education, 252 Bloor Street West, Toronto, Ontario M5S 1V5; Ministry of Education, Eastern Ontario Regional Office, Regional Office, 4th Floor, 1580 Merivale Road, Ottawa, Ontario K2G 4B5; Ministry of Education, Northwestern Ontario Regional Office, PO Box 5000, 435 James Street South, Thunder Bay, Ontario P3E 5P9; Ministry of Education, Midnorthern Ontario Regional Office, 199 Larch Street, 7th Floor, Sudbury, Ontario P3E 5P9; Ministry of Education, Western Ontario Regional Office, 759 Hyde Park Road, London, Ontario N6H 3S6; Ministry of Education, Northeastern Ontario Regional Office, PO Box 3020, 447 McKeown Avenue, North Bay, Ontario P1B 8K7; and Legislative Library, 180 Bloor Street West, 5th Floor, Toronto, Ontario M5S 2V6.

Most Learning Materials, and some Curriculum, and Research and Reports documents are available from distributors as detailed in records.

Access:
The Centre for Curriculum Resources and Technologies markets *Ontario Education Resources Information System ONTERIS, ONTERIS: Access to Ontario Education Information, Collections Policy, Production and Access, ONTERIS users through BRS Information Technologies*, and the *Database Search Aid: ONED* for no charge.

Clients pay a fee of $US 35.00 per hour plus 23 cents per unit to BRS Information Technologies for online access to ONED on BRS Search Service. ONED is available on three BRS products: within BRS/Search Service on BRS/Educator, a specially priced plan available exclusively for professionals working in educational settings and BRS/Instructor, designed to enhance the teaching of online searching techniques; on BRS Colleague providing access to the world of biomedical literature and information; and on BRS/After Dark providing BRS/Search Service at reduced rates for evening and weekend use. BRS Information Technologies also provides discounts for high-volume users in the form of three advance purchase plans: open access; annual commitment by advance purchase; and annual commitment by monthly installment.

BRS Information Technologies markets an aid page for no charge and a database guide for $US 7.50.

The ONTERIS database is available, together with the Canadian Education Index and The Canadian Education Association Handbook, on one CD-ROM marketed by Micromedia Limited as CD:Education for an annual subscription of $Can 800.00. This product includes updates at four-month intervals, software, user manuals, quick-help card, and customer support. CD:Education runs on an IBM-compatible microcomputer with a CD-ROM drive.

Products and services are available without restrictions.

Client Groups:
The intended users of the ONTERIS database are specified to be teachers, researchers, policy-makers, and the general public.

A user directory of specific client groups using the ONTERIS database is maintained by the Centre for Curriculum Resources and Technologies. The directory specifies that the ONTERIS database is widely accessed in Ontario and to a lesser extent in other Canadian provinces through BRS Information Technologies. The users in Ontario are the boards of education of Carleton, Dufferin-Peel, East York, Etobicoke, Halton, Hamilton, Huron County, Leeds and Grenville, Lennox and Addington, Lincoln County, London, Metropolitan Separate, Metropolitan Toronto, Niagara South, North York, Northumberland and Newcastle, Ottawa, Ottawa Roman Catholic, Peel, Peterborough County, Scarborough, Simcoe County, Stormont-Dundas, Sudbury, Timiskaming, Toronto, Waterloo, Waterloo Region Separate, Wellington County, York, and York Region. As well as being used by a variety of non-educational institutions and organisations in Ontario, the ONTERIS database is also accessed by the tertiary institutions of Algonquin College, Brock University, Carleton University, Guelph University, Lakehead University, Laurentian University, McMaster University, OISE, Queen's University, Ryerson Polytechnical Institute, University of Ottawa, University of Toronto, University of Waterloo, University of Western Ontario, University of Windsor, Wilfred Laurier University, and York University.

The ONTERIS database is also used by a small number of school systems and non-educational organisations in other Canadian provinces, as well as the tertiary institutions of Athabasca University (Alberta), Camosun College (British Columbia), Concordia University, Dalhousie University, Fraser Valley College (British Columbia), Holland College (Prince Edward Island), John Abbott College (Quebec), Lethbridge Community College (Alberta), Macdonal College (Quebec), McGill University, Memorial University, Mistikwa Community College (Saskatchewan), Northern Alberta Institute of Technology, Red River Community College (Manitoba), Sherbrooke University, Simon Fraser University (British Columbia), Universite de Montreal, Universite du Quebec a Montreal, Universite du Quebec a Trois-Rivieres, University of Alberta, University of British Columbia, University of Calgary, University of Manitoba, University of Regina, University of Saskatchewan, and University of Victoria.

The ONTERIS database is also used in the U.S.A., and can be accessed in Australia, Columbia, Egypt, Finland, Germany, Israel, Japan, South Korea, Mexico, Netherlands, and Taiwan through gateway services offered by BRS Information Technologies.

REFERENCES
Bibliography:
Derksen, D. and Goodman, J.
'ONTERIS: access to education information'
TESL Talk, 18: 1, 89-95 (1988)
ERIC EJ 369 017
Describes ways the ONTERIS database can provide valuable assistance to teachers of English as a second language by covering the database's contents, sources, utilisation, dissemination, and sample records.

Contact:
*Nicolson, L.
personal communication (1991)

*Linda Nicolson is the Acting Coordinator of the Ontario Education Resources Information System (ONTERIS).

10
SCOTTISH COUNCIL FOR EDUCATIONAL TECHNOLOGY (SCET)

Agency:
Scottish Council for Educational Technology (SCET)

Address:
Dowanhill, 74 Victoria Crescent Road, Glasgow G12 9JN, Scotland

Phone:
(041) 334-9314

Foundation Date:
1975

Governance and Funding:
The SCET, a registered company limited by guarantee, is governed by a council made up of members appointed by the Secretary of State for Scotland and the Convention of Scottish Local Authorities.

The SCET is funded by contractual grants from the Scottish Education Department, and by revenues from registration fees and sales of services, products and publications.

Mission and Program:
The mission of the SCET is to promote effective learning and teaching, communication of good practices, staff development in education, industry and community services, and evaluation of present and future activities in educational technology. This mission is accomplished through the programs of six divisions: Learning Systems; Research and Development; Microelectronics Software Development; Computer Administration Systems; Media Resources; and Database Services, which manages the SEND.

The program of the Database Services Division includes operating the SCET private videotex system, producing and distributing publications and software packages, providing advice, consultation and services to education, industry and commerce, providing an information service on educational software available in the United Kingdom, and maintaining the SEND, a computer-readable database of information on computer courseware and hardware for use by exceptional persons of all age groups.

PROGRAM ORGANISATION

Database Title:
Special Educational Needs Database (SEND)

Type:
Bibliographic files contain records of indexes with descriptive abstracts and citations to evaluative ratings and reviews. Also includes directory and dictionary subfiles.

Language:
English

Structure:
The SEND is available in an online version in nine files.

(i) Hardware and Software Information: Comprises two subfiles with Hardware containing records of microcomputer hardware and peripherals suitable for users with visual, hearing, physical, speech and language, or intellectual disabilities, and Software containing records of microcomputer courseware for BBC, RM Nimbus, Apple, Archimedes, and IBM, appropriate or capable of appropriate adaptation for users with visual, hearing, physical, speech and language, or intellectual disabilities.

(ii) Key Publications: Contains records relating to research on the use of computer technology in special education contained in books, serials, reports, audiovisual materials, information aids, directories and catalogues, and references to LOGO and the Turtle.

(iii) Newsfile: Contains a news service focusing on special education.

(iv) Conferences, Courses, Exhibitions: Contains records on conferences, courses and exhibitions relevant to the areas of computer technology and special education.

(v) Glossary of Terms, New User Guide: Contains a glossary of terms relating to computer technology and special education, a user's guide to the SEND intended for new users.

(vi) Developments: Contains records of projects conducted within the United Kingdom involving the application of computer technology to special education.

(vii) Speciality: Contains a report on a special feature.

(viii) What's New: Contains an index directing users to recent additions to the database.

(ix) Noticeboard, Mailbox, Response Page: Contains a modified bulletin board for users, an electronic mailing facility for users, and a response page allowing users to add information to any part of the database.

The Hardware and Software Information file contains information on microcomputer courseware and equipment for classroom use; the Key Publications file contains information on curriculum-related research; and the Developments file contains information on curriculum-related projects.

Scope:
microcomputer hardware and courseware for special education

Service Established:
1985

Service Provisions:
The SEND is provided by online application through a videotex information service by a host organisation, by electronic mail application, by computer diskette application (prospective), and by optical publishing application (under review).

DEVELOPMENT
Origin:
In 1979, the Scottish Microelectronics Development Programme (SMDP) was initiated by the Scottish Education Department to fund the provision of microcomputer systems to Scottish schools. The SMDP also funded 68 educational institutions across Scotland to develop projects involving the application of microcomputers in particular subject areas. The SMDP promoted awareness by developing training materials and computer-assisted learning materials, liaising with industrial and community groups, establishing a library of microcomputer software and hardware and an information service at the SCET, and forming a working group in special education (Walker and Megarry, 1981; Educational Computing, 1982; Morris, 1982; and Scottish Microelectronics Development Programme, 1984)

These developments provided the basis for initiating the Special Educational Needs Information Project (SENIEP) at the SCET in October 1983, funded by the Department of Trade and Industry as a pilot project for a two-year period. The main purpose of the SENIEP was to develop and evaluate a database for exchanging information on microcomputer hardware and courseware related to special education among relevant professionals in Scotland. The SEND was developed during this period through consultations between the SENIEP staff and special educational needs experts, principally from the CALL Centre at Edinburgh, the Lothian Special Interest Group, St. Andrew's College of

Education, Donaldson's School for the Deaf at Edinburgh, the Spinal Injuries Unit in the Edenhall Hospital at Musselburgh, and the SENIEP Advisory Committee.

An important outcome of the SENIEP was the decision to extend public access to the SEND throughout the United Kingdom, which was realised late in 1985 through online access as part of the Prestel Education Service provided by British Telecom, and later through CAMPUS 2000 developed by Prestel and The Times Network Systems. This extension led to the recognition of a need for additional means to accomplish dissemination of the SEND in England, Wales and Northern Ireland, and to trial and install components of the SEND within the National Educational Resources Information Service (NERIS). A project officer was appointed by the SCET to the Microelectronics Education Support Unit (now the National Council for Educational Technology) at the University of Warwick in Coventry for a sixteen-month period between January 1988 and April 1989 to accomplish five main tasks: to disseminate the SEND; to assist the conduct of developing and monitoring the SEND at four regional Special Education Microelectronic Resource Centres and at the Aids to Communication in Education (ACE) Centre; to assist identify appropriate components of the SEND for inclusion in the NERIS; to evaluate the SEND components included in the NERIS; and to evaluate the use of the SEND in England, Wales and Northern Ireland. The plan to integrate the SEND and the NERIS database has now been discontinued, and the two databases will remain discrete.

Trialling and Evaluation Activities:
Martin (1986) reported that the SENIEP, which provided the pilot study for trialling the SEND, consisted of five main stages: developing the SEND; supplying 47 project centres with hard-wired modems and terminal software for BBC microcomputers to access the SEND; providing on-site training, technical manuals and subsequent support in using the SEND to personnel at the project centres; encouraging the project centres to use interactive facilities of the system to provide feedback to the SENIEP and the other project centres; and conducting both formative and summative evaluations of the SENIEP.

Data were obtained for the evaluations of the SENIEP by six methods: questionnaires were used on two occasions during the course of the trialling period to collect information from the project centres; personnel at seven project centres were interviewed to provide information for case studies; statistical information on the usage of the SEND was collected through a facility in the database's program; feedback was collected from users; contributions were presented by the SENIEP Advisory Committee; and informal and unplanned evaluation was derived from the day-to-day operations of the SENIEP. The evaluation of the SENIEP resulted in six main conclusions and recommendations: the SEND proved to be a valuable resource for most project centres; videotex proved to be a manageable and reliable medium for provision of a database; project centres used the SEND as a source for information rather than as an exchange; that the SEND should be made available to a wider audience; that the prospective use of telesoftware should be investigated; and the content of the SEND should be extended.

Although 49 prospective project centres were invited to participate in the SENIEP during January 1984, only 46 had been installed by mid-1985. Selected to represent both a dispersed geographical distribution throughout Scotland and a distribution across different types of school, the 47 project centres installed for the SENIEP consisted of special educational needs units arranged below by region: Hawick High School (Borders); Dawson Park School, Stirling Child Guidance Centre, and Whins of Milton School (Central); Cargenbridge Teachers' Resource Centre (Dumfries and Galloway); Buckhaven High School, Lynbank Hospital School, and Rosslyn School (Fife); Aberdeen College of Education, Beechwood School, Garrioch Centre, and GEM Project at Aberdeen (Grampian); Drummond School at Inverness, and Dingwall Academy (Highland); Graysmill School, Kaimes School, Torphichen Education Centre, CALL Centre at the University of Edinburgh, Donaldson's School for the Deaf, Moray House College of Education, Royal School for the Blind, Edenhall Hospital Spinal Injuries Unit, and Westerlea School (Lothian); Child Guidance Centre at Kirkwall (Orkney); Child Guidance Centre at Lerwick (Shetland); Whitegates School (Argyll and Bute Division, Strathclyde); Greenwood Teachers' Centre at Irvine, Marnock School at Kilmarnock, and Saltcoats Child Guidance Centre (Ayr Division, Strathclyde); Glencryan School, and St Andrew's College of Education (Dunbarton Division, Strathclyde); Ashcraig School, St

Aidan's School, Lawmuir School, Woodlands Teachers' Centre, HM Inspector of Schools Office at Glasgow, Jordan Hill College of Education, St Kevin's School, and Abercorn School (Glasgow Division, Strathclyde); Hamilton Child Guidance Centre, Fir Park School at Motherwell, and Faichney Field Work Centre (Lanark Division, Strathclyde); Glenburn School, and Mary Russell School (Renfrew Division, Strathclyde); Dundee College of Education, and Seymour Lodge Teachers' Centre (Tayside); and Nicolson Institute at Stornoway (Western Islands).

The Scottish Council for Educational Technology (1989) reported an evaluation study of the use of SEND on electronic information systems provided by online host services. The evaluation of the SEND on the Prestel Education Service involved 28 subjects, from a sample of 45 SEND users, responding to a questionnaire. The study identified the subjects' use of the SEND, their perceptions of the role of the SEND, the technical aspects of accessing the SEND, the effects of costs of the online system, and the usefulness of each of the SEND subfiles. The installation and evaluation of the SEND on the NERIS database during 1988 involved two components of SEND subfiles: a selection of 23 records from the Hardware section; and a subset of records from the Publications subfile. A reference group of six experienced SEND users tested accessing the SEND components on the NERIS database. The reference group identified advantages and disadvantages of the application, and recommended further evaluation once the system became operational.

Resources:
The SEND is located in the Database Services Division of the SCET, consisting of one main office and four small offices adjoining. The SEND is operated by a staff of one full-time and one part-time management professionals (part-time project director, and a full-time project manager), one full-time information professional (editor), and one part-time clerical (secretary). The SEND uses two Elonex terminals of the SCET's Digital Equipment Corporation PDT 11/24 minicomputer, and the SEND staff uses two microcomputers.

The SEND is funded at present mainly by the Scottish Education Department, which provided 30,000 pounds sterling for the 1990 financial year. The SCET funds the salary of the part-time director. British Telecom provides funding by waiving the frame storage charges for the SEND on its public online service, CAMPUS 2000.

Training:
The SCET provides training for teachers and other personnel employed by local education authorities in Scotland.

Fifty-five demonstrations of the SEND were given during the SENIEP, 34 at the SCET and 21 at other sites, and a one-day conference was held in 1985.

The SEND project officer for England, Wales and Northern Ireland, was involved as the leader in 29 training sessions which consisted of two types: 22 involved demonstrations designed for new users; and 7 involved demonstrations followed by workshops designed for experienced users of the SEND. The project officer also developed suitable materials for use in each type.

Prospective Products and Services:
The SCET intends to make available, from January 1992, a computer diskette application of the SEND in the form of three modules: Software; Hardware; and Contacts, Developments and Publications. The diskettes can be used with a BBC Master 128, IBM with Microsoft Windows version 3.0, Apple Macintosh, and Archimedes microcomputers.

INPUT
Sources:
Information contained in the SEND is obtained in several ways from five sources: from users of the SEND through the online response frame, telephone or letters; documents supplied by producers of microcomputer hardware and software; by research from newsletters, books, bulletins, information sheets, newspapers, journals, conference proceedings, and articles; from attendance by staff members of the SCET at conferences, exhibitions, schools, education centres, and through personal contacts; and from the SEND Advisory Committee.

Selection Policy:
The SEND staff includes all materials coming to their attention which are claimed to have applications for learners with special educational needs and are related to microcomputers.

Entry Processes:
The SEND editor indexes information according to the description offered in distributors' catalogues. All unsupportable information from catalogues is edited out and independent, evaluative comment is included where this is stated.

Controlled Terminology:
The controlled vocabulary consists of terms relevant to the fields of computer technology and special education. The controlled vocabulary is used in the Hardware and Software Information file: terms for Disability, employing both categories and sub-categories, are used in both subfiles; terms for microcomputer brand names and models are used for microcomputer peripherals and courseware in both subfiles; and terms for teaching-learning areas related to special education are used in the Software subfile.

HOLDINGS
Record Numbers:
In June 1991, the Hardware subfile contained 200 records, and the Software subfile contained 650 records. The SEND holds 4,500 videotex pages of information.

Updating:
Records are date-stamped and six-monthly mailouts are conducted to collect current information. Updating is undertaken regularly on a daily basis.

Coverage:
Information on the coverage of records in the SEND is unavailable.

Search Strategy:
Records in the SEND are searched through the standard procedure for videotex systems by selecting option numbers displayed on a series of progressively specific menus. The Hardware subfile can be searched alternatively by disability type, computer type, or alphabetically. Searching by disability type or computer type is refined by a keyword, and then by an index word. The Software subfile can be searched alternatively by disability, learning-teaching area, computer type, or alphabetically. Searching by disability, teaching-learning area, or computer type is refined by a keyword, and then by an index word. Records are searched by consecutive page numbers.

Record Samples:
Hardware subfile of the Hardware and Software Information file:

The Photonic Wand

Description:	device consists of an optical sensor worn on the head and connected to the light-pen input of the BBC microcomputer. Mobile cursor appears when the sensor is pointed towards the screen from any distance up to a few metres away. User selects from words/colours/notes displayed.
Computer required:	BBC B + disc drive
Package comprises:	helmet or spectacle-mounted wand + 3 programs on disc
Applications:	text writing - those with high spinal injuries or cerebral palsy having reasonably good head control
Supplier:	The Photonic Wand Company 12 Orchard Croft Guilden Sutton Chester CH3 7SL Tel: 0244 3000002
Price:	Helmet-mounted ..... 120.00 pounds sterling

	Spectacle-mounted .... 95.00 pounds sterling (Price includes p/p. No VAT is payable)
References:	"Learning to Cope '84": p 16; paper given at 1984 International Conference: "The Computer as an aid to those with Special Needs" An important feature of the Wand is claimed to be the smooth movement of the cursors which means that the user is given constant feedback of his head position, although the response of the program to the cursor can be slowed in case of involuntary head movement. Programs supplied include painting, playing music and word-processing. Software will be available shortly which will allow the disabled user to write his own BASIC programs and run many commercial programs intended for the keyboard without modification.
Scottish users:	CALL Centre, 4 Buccleuch Place, University of Edinburgh, Edinburgh Edenhall Spinal Injuries Unit, Edenhall Hospital, Musselburgh

Software subfile of the Hardware and Software Information file:

Granny's Garden

Supplier:	4MAT Educational Software, Linden Lea, Rock Park, Barnstaple, Devon EX32 9AQ	
Computer:	BBC B	Tape: 10.00 pounds sterling + VAT
Format:	Disc/Tape	Disc: 12.00 pounds sterling + VAT
Description:	adventure program with dragons, witches etc. Task is to find missing children by visiting locations. Help given by creatures within program. Uses double-height characters and will accept incorrectly-spelt instructions. Accompanied by 16-page booklet.	
Special need:	moderate learning diffs/deaf	
Age range:	6-11	
Teaching/ Learning area:	cognitive and perceptual skills; creative skills	
Program style:	discovery (simulation)	
Program use:	institutional/group	
Presentation:	text and graphics	
Control:	BBC keyboard	
References:	Educational Computing, November 1983 Times Educational Supplement 18/11/83	
Where used in Scotland:	St. Andrew's College, Bearsden Whins of Milton School, Stirling Donaldson's School for Deaf, Edinburgh Comment: "... enormous success"	

OUTPUT

Print and Computer-based Products:

The SEND is accessible online and on CD-ROM.

The SEND can be accessed by a limited number of Scottish users on the private videotex system of the SCET. Since late in 1985, public online access has been offered through the Prestel Education Service provided by British Telecom, and later through CAMPUS 2000, Priory House, St John's Lane, London, England EC1M 4BX.

From March 1990, the SEND became available as part of one of two CD-ROMs marketed by the Educational Counselling and Credit Transfer Information Service, PO Box 88, Walton Hall, Milton Keynes MK7 6DB, England. The dissemination of the SEND on CD-ROM is under review and may be postponed.

Publications and Publicising Aids:

The SCET publishes a one-page information brochure on the SEND, titled *SEND Special Educational Needs Database*, a one-page information brochure titled *SEND on CD-ROM*, and an irregular newsletter, *SEND WORD*.

The SCET publishes as part of the SEND program, *Opening Doors*, an instructional program dealing with the integration of pupils with physical disabilities into secondary schools developed by the National Curriculum Development Officer for Scotland. Available as a set of four computer diskettes for Apple Macintosh microcomputers, *Opening Doors* consists of three components: pupils' booklets for three stages of schooling; an information booklet for schools; and a suggested format for a letter from staff in secondary schools to parents or guardians introducing *Opening Doors*.

Microforms and Source Documents:
No microforms are produced. Source materials are not held by the SCET.

Source materials are available from distributors as detailed in records.

Access:
Clients pay an annual subscription for online access to Prestel's videotex service on CAMPUS 2000, together with the cost of a local telephone call for each access to SEND. The subscriptions for schools with 300 or more students is 259.00 pounds sterling for Campus Basic or 359.00 pounds sterling for Campus Plus, and for schools with less than 300 students is 134.00 pounds sterling for Campus Basic or 184.00 pounds sterling for Campus Plus, for advisors and advisory teachers (consultants) is 197.00 pounds sterling for Campus Basic or 272.00 pounds sterling for Campus Plus.

A demonstration sample package of the SEND, contained on a computer diskette, is also available for 3.75 pounds sterling.

Opening Doors is marketed by the SCET for 10.00 pounds sterling plus VAT.

Products and services are available without restrictions.

Client Groups:
The intended users of SEND are specified to be teachers and lecturers, psychologists, HM inspectors, occupational therapists, speech therapists, social workers, and personnel employed by disabled user groups, voluntary agencies, special schools, comprehensive schools, resource centres, adult day centres, hospitals, universities, and child guidance centres.

The SEND has been widely used throughout the United Kingdom since 1985 through Prestel's CAMPUS 2000. The SEND maintains a User Directory listing 260 sites located in schools, university departments, adult training day and residential centres, careers and employment agencies, education agencies, social work agencies, voluntary agencies, health and rehabilitation agencies, consultants and software developers, colleges, resource centres, psychological services, advisory services and support groups, and interested individuals.

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NUT Education Review, 2: 1, 64-68 (1988)

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'North of the border: the SMDP'
Educational Computing, 3: 3, 9 (1982)

Martin, J.W.F.
The Special Educational Needs Information Exchange Project: Final Report
Glasgow, Scotland: Scottish Council for Educational Technology (1986)
Describes the purposes of the SENIEP, the development and structure of the SEND, the selection and installation of project centres, the capabilities of the SCET's private videotex system, the use of SEND by the project centres, training activities, and prospective developments relating to the SEND.

Morris, I.
'Microelectronics in Scottish education'
Media in Educational Development, 15: 2, 61-62 (1982)
ERIC EJ 267 338
Describes the Scottish Microelectronics Development Programme (SMDP).

Munro, N.
'Scots schools to move into micro technology'
The Times Educational Supplement Scotland, 14 December 1979, 3
Describes a program in which the Scottish Education Department funded the SCET to provide Scottish schools with microcomputers for classroom and administrative uses.

Pickard, W.
'SCET unveils market-led regime'
The Times Educational Supplement Scotland, 22 February 1991, 5
Describes a new plan for the SCET to improve its marketing of products and services by concentrating upon Scotland.

Scottish Council for Educational Technology
The Special Educational Needs Database (SEND) Project: SEND Project Officer's Final Report
Glasgow, Scotland: Scottish Council for Educational Technology (1989)
Reports the activities of the SEND project officer for England, Wales and Northern Ireland.

Scottish Microelectronics Development Programme
Strategy and Implementation Paper
Glasgow, Scotland: Scottish Microelectronics Development Programme (1981)
ERIC ED 231 327
Describes the plan for the Scottish Microelectronics Development Programme (SMDP), its aims and its information service, and the related Secondary Schools Computer Administration and Management Project (SCAMP), and the Scottish Community Education Microcomputer Project (SCEMP).

Scottish Microelectronics Development Programme
About the Scottish Microelectronics Development Programme
Glasgow, Scotland: Scottish Microelectronics Development Programme (1984)
ERIC ED 244 587
Describes the Scottish Microelectronics Development Programme (SMDP), established at the SCET and intended to introduce and coordinate educational microcomputing in Scottish schools between 1980 and 1984.

The Times Educational Supplement Scotland
'Access to Prestel'
The Times Educational Supplement Scotland, 26 September 1980, 3
Describes a plan for the SCET to subsidise Scottish schools in the use of British Telecom's videotex service, Prestel.

The Times Educational Supplement Scotland
'Broken pledges threaten SCET jobs'
The Times Educational Supplement Scotland, 6 January 1989, 1
Describes how the failure of the Scottish Education Department to fund the national plan for computers in schools jeopardised the SCET's administration of the program.

Tucker, R.N.
'The Scottish Council for Educational Technology: a model for a service and development agency'
Educational Broadcasting International, 14: 1, 35-38 (1981)

Walker, D.D.

'Micros in Scottish Education (MISE): special educational needs'
Educational Media International, 25: 2, 129-135 (1988)

Walker, D.D. and Megarry, J.
'The Scottish Microelectronics Development Programme'
Programmed Learning and Educational Technology, 18, 3, 130-135 (1981)
Describes the Scottish Microelectronics Development Programme (SMDP), its aims and its information service, and the related Secondary Schools Computer Administration and Management Project (SCAMP), and the Scottish Community Education Microcomputer Project (SCEMP).

Contact:
*Beresford, S.
personal communication (1991)

*Stuart Beresford is the Project Manager for the Special Educational Needs Database (SEND).

11
UNITED STATES DEPARTMENT OF EDUCATION

Agency:
United States Department of Education, Office of Educational Research and Improvement, Educational Resources Information Center (ERIC)

Address:
555 New Jersey Avenue, N.W., Washington, DC 20208, U.S.A.

Phone:
(202) 219 2289

Facsimile:
(202) 219 1817

Foundation Date:
1867

Central and Other Agencies:
(i) Central Organisation:

Central ERIC, Office of Educational Research and Improvement, United States Department of Education, 555 New Jersey Avenue, N.W., Washington, DC 20208, U.S.A.; Phone: (202) 219 2289; Fax: (202) 219 1817
Provides the funding source, performs policy making, management, technical direction, and monitoring functions.

(ii) Support Organisations: The ERIC maintains four agencies which produce, process, publish, and disseminate system-wide ERIC products and services. The operation of support organisations is contracted on a competitive basis to commercial organisations with expertise in publishing and information management.

ERIC Processing and Reference Facility, ARC Professional Services Group, Information Systems Division, 1301 Piccard Drive, Suite 300, Rockville MD 20850, U.S.A.; Phone: (301) 258 5500; Fax: (301) 948 3695
Provides acquisition and assignment of RIE documents, handling and shipping, editing, vocabulary maintenance, distribution of documents, computer searching for ERIC functions, data entry, computer processing, and produces magnetic tapes (ERICTAPES).

Oryx Press, 4041 North Central Avenue at Indian School, Suite 700, Phoenix, AZ 85012, U.S.A.; Phone: (602) 265 2651; Fax: (602) 265 6250
Provides selection, acquisition and assignment of journals to be covered by CIJE, input screening, editing, computer processing, and publishes and distributes CIJE.

ERIC Document Reproduction Service, Cincinnati Bell Information Systems (CBIS) Federal, 7420 Fullerton Road, Suite 110, Springfield, VA 22153, U.S.A.; Phone: (703) 440 1400; Fax: (703) 440 1408
Provides microfilming, and document supply services.

ACCESS ERIC, Aspen Systems Corporation, 1600 Research Boulevard, Rockville, MD 20850, U.S.A.; Phone: (301) 251 5045; Fax: (301) 251 5212
Promotes ERIC services and products, and acts as a referral service between the ERIC system and its users.

(iii) Clearinghouses: The ERIC maintains sixteen Clearinghouses and five Adjunct Clearinghouses, which acquire, select and process literature within particular subject areas, provide vocabulary maintenance, reference and retrieval services, develop information analysis products, conduct workshops, and develop linkages with the educational community. The operation of ERIC Clearinghouses is contracted on a competitive basis to centres of educational expertise at universities, professional associations and other non-profit educational organisations.

ERIC Clearinghouse on Adult, Career, and Vocational Education, Ohio State University, Center on Education and Training for Employment, 1900 Kenny Road, Columbus, OH 43210, U.S.A.; Phone: (614) 292 4353; Fax: (614) 292 1260; also includes the Adjunct ERIC Clearinghouse on Consumer Education, National Institute for Consumer Education, 207 Rackham Building, West Circle Drive, Eastern Michigan University, Ypsilanti, MI 48197, U.S.A.; Phone (313) 487 2292; Fax: (313) 487 7153

ERIC Clearinghouse on Counseling and Personnel Services, University of Michigan, School of Education, Room 2108, 610 East University Street, Ann Arbor, MI 48109, U.S.A.; Phone: (313) 764 9492; Fax: (313) 747 2425

ERIC Clearinghouse on Educational Management, University of Oregon, 1787 Agate Street, Eugene, OR 97403, U.S.A.; Phone: (503) 346 5043; Fax: (503) 346 5890

ERIC Clearinghouse on Elementary and Early Childhood Education, University of Illinois, College of Education, 805 West Pennsylvania Avenue, Urbana, IL 61801, U.S.A.; Phone: (217) 333 1386; Fax: (217) 333 5847

ERIC Clearinghouse on Handicapped and Gifted Children, Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091, U.S.A.; Phone: (703) 620 3660; Fax: (703) 264 9494

ERIC Clearinghouse on Higher Education, The George Washington University, One Dupont Circle N.W., Suite 630, Washington, DC 20036, U.S.A.; Phone: (202) 296 2597; Fax: (202) 296 8379

ERIC Clearinghouse on Information Resources, Syracuse University, Huntington Hall, Room 030, Syracuse, NY 13244, U.S.A.; Phone: (315) 443 3640; Fax: (315) 443 5732

ERIC Clearinghouse on Junior Colleges, University of California at Los Angeles, Math-Sciences Building, Room 8118, 405 Hilgard Avenue, Los Angeles, CA 90024, U.S.A.; Phone: (213) 825 3931; Fax: (213) 206 8095

ERIC Clearinghouse on Languages and Linguistics, Center for Applied Linguistics, 1118 22nd Street N.W., Washington, DC 20037, U.S.A., Phone: (202) 429 9551; Fax: (202) 429 9766; also includes the Adjunct Clearinghouse on Literacy Education for Limited-English-Proficient Adults

ERIC Clearinghouse on Reading and Communication Skills, Indiana University, Smith Research Center, Suite 150, 2805 East 10th Street, Bloomington, IN 47408, U.S.A.; Phone: (812) 855 5847; Fax: (812) 855 7901

ERIC Clearinghouse on Rural Education and Small Schools, Appalachia Educational Laboratory, PO Box 1348, 1031 Quarrier Street, Charleston, WV 25325, U.S.A.; Phone: (304) 347 0400; Fax: (304) 347 0487

ERIC Clearinghouse on Science, Mathematics, and Environmental Education, Ohio State University, 1200 Chambers Road, Room 310, Columbus, OH 43212, U.S.A., Phone: (614) 292 6717; Fax: (614) 292 4315

ERIC Clearinghouse on Social Studies/Social Science Education, Indiana University, Social Studies Development Center, 2805 East 10th Street, Suite 120, Bloomington, IN 47408, U.S.A., Phone: (812) 855 3838; Fax: (812) 855 7901; also includes the Adjunct ERIC Clearinghouse on Art Education, and the Adjunct ERIC Clearinghouse for United States-Japan Studies (National Clearinghouse for United States-Japan Studies)

ERIC Clearinghouse on Teacher Education, American Association of Colleges for Teacher Education, One Dupont Circle N.W., Suite 610, Washington, DC 20036, U.S.A.; Phone: (202) 293 2450; Fax: (202) 457 8095

ERIC Clearinghouse on Tests, Measurement, and Evaluation, American Institutes for Research,

Washington Research Center, 3333 K Street N.W., Washington, DC 20007, U.S.A.; Phone: (202) 342 5060; Fax: (202) 342 5033

ERIC Clearinghouse on Urban Education, Teachers College, Columbia University, Institute for Urban and Minority Education, Main Hall, Room 300, Box 40, 525 West 120th Street, New York, NY 10027, U.S.A.; Phone: (212) 678 3433; Fax: (212) 678 4048

Adjunct ERIC Clearinghouse on Chapter 1 (Compensatory Education), Chapter 1 Technical Assistance Center, PRC Inc., 2601 Fortune Circle East, One Park Fletcher Building, Suite 300-A, Indianapolis, IN 46241, U.S.A.; Phone: (317) 244 8160; Fax: (317) 244 7386

Governance and Funding:
The United States Department of Education consists of fifteen divisions: Office of the Secretary; Office of the Under Secretary; Office of Inspector General; Office of General Counsel; Office of Planning, Budget and Evaluation; Office of Management; Office of Intergovernmental and Interagency Affairs; Office of Elementary and Secondary Education; Office of Postsecondary Education; Office of Educational Research and Improvement, which administers the ERIC; Office of Special Education and Rehabilitative Services; Office of Vocational and Adult Education; Office of Legislation; Office of Civil Rights; and Office of Bilingual Education and Minority Languages.

The United States Department of Education is funded by public funds. Federal funding for the ERIC system has averaged in recent years $US 6.5 million per fiscal year.

Mission and Program:
The mission of the Office of Educational Research and Improvement (OERI) is to support and conduct research on education, collect and analyse education statistics, administer grant and contract programs to improve libraries and library education, and disseminate information. The mission of the OERI is accomplished through five program offices: the Office of Research, which supports the scholarly and academic work of individuals and institutions, including funding and coordinating research and development centres based in universities, and maintains the ERIC database; the National Center for Educational Statistics, which collects, analyses and disseminates statistics on the condition of education in the United States; the Programs for the Improvement of Practice, which ensure that education data, research findings and exemplary practices are accessible and shared through the National Diffusion Network, and fund and coordinate the regional educational laboratories; the Library Programs, which administer grant and contract programs to state agencies, institutions of higher education, and other organisations; and the Information Services program, which coordinates the agency's external liaison activities, and serves as the support group for the other OERI components.

PROGRAM ORGANISATION
Database Titles:
Resources in Education (RIE); Current Index to Journals in Education (CIJE)

Type:
The RIE and CIJE files provide bibliographic records containing indexes with descriptive abstracts; the ERIC Digests Online file provides full-text versions of ERIC Digests; the ERIC Calendar of Education-related Conferences, the ERIC Education-related Information Centers, and the ERIC Information Service Providers files provide online directories.

Language:
English

Documents in other languages are included in the ERIC database.

Structure:
The ERIC database comprises two main files, and four additional files of ERIC information products.

(i) Resources in Education (RIE): Contains records of mostly unpublished, educational research including books, general collected works, conference proceedings, collected serials, creative works, dissertations and theses, general guides, instructional materials, teacher's guides, historical materials, information analyses, legislative and regulatory materials, statistical compilations, viewpoints papers, general reference materials, bibliographies, directories, geographic materials, dictionaries and related materials, general reports, descriptive reports, evaluative and feasibility reports, research and technical reports, speeches and conference papers, and translated documents. Record numbers begin with ED.

(ii) Current Index to Journals in Education (CIJE): Contains records of articles published in approximately 746 education core, education-related, and non-education journals. Record numbers begin with EJ.

(iii) ERIC Digests Online (EDO): Contains online, full-text versions of 470 ERIC Digests.

(iv) ERIC Calendar of Education-related Conferences: Contains an online version of the *ERIC Calendar of Education-related Conferences.*

(v) ERIC Education-related Information Centers: Contains an online version of the *ERIC Education-related Information Centers.*

(vi) ERIC Information Service Providers: Contains an online version of the *ERIC Information Service Providers.*

Scope:
all aspects of educational research and resources

Service Established:
1966

Service Provisions:
The ERIC database is provided by online application through information retrieval services by host organisations, by electronic application (ERIC Clearinghouse on Information Resources), by printed journal application, by computer diskette application (ERIC Clearinghouse on Information Resources), by micrographic application, by optical publishing applications, and document delivery services are offered by the provider and other organisations.

DEVELOPMENT
Origin:
The United States Office of Education began funding educational research projects following the passage of the Cooperative Research Act through Congress in 1954. The National Defense Education Act of 1958 required that the United States Office of Education disseminate results of these projects. Initially, the United States Office of Education depended upon the United States Government Printing Office to publish limited quantities and distribute copies to public and university libraries. Officials of the United States Office of Education, responsible for the dissemination of research on the uses of new media, sought to establish an information system which could accommodate a large volume of material, provide a mechanism for economic reproduction and widespread dissemination of educational literature.

The genesis of the ERIC can be dated as far back as 1959 in conceptual and feasibility studies patterned upon existing government-sponsored documentation systems. In 1958, the United States Office of Education founded the Clearinghouse of Studies in Higher Education, which was superseded in 1964 by the fledgling Educational Research Information Center (ERIC), based upon the results of these feasibility studies. Following passage of the Elementary and Secondary Education Act in 1965, the ERIC was directed to present a plan for disseminating information for use by state and local educational authorities to develop programs for teaching children from disadvantaged backgrounds. The implementation of this plan provided the first large-scale trial

of the ERIC system, when the ERIC and organisations contracted from the private sector, collected, indexed, abstracted and disseminated information on 1,746 documents on special educational needs of the disadvantaged.

The Elementary and Secondary Education Act led to a rapid expansion of many programs in the United States Office of Education, and to a recognition that readily accessible information would be an important constituent for improving education. This led to the formulation and adoption of a model for the ERIC system during 1965, consisting of a centralised management for the system, a decentralised structure based upon separate and geographically dispersed Clearinghouses, and the involvement of the private sector to provide technical facilities for which the United States Office of Education lacked funding, such as the computer processing contractor, the micrographics contractor, commercial publishers, and more recently online and CD-ROM vendors. The general plan for the ERIC system was implemented in the latter part of 1965 and during 1966, when the headquarters office, known as Central ERIC, was established within the United States Office of Education, a micrographics publisher was contracted, a central editorial and computer processing facility and the first twelve ERIC Clearinghouses were founded, and a monthly abstract journal was published. This journal, covering unpublished reports, was followed in 1969 by the publication of a second journal, which formed a monthly guide to the periodical literature. In 1967, a name change was made from Educational Research Information Center to Educational Resources Information Center, an additional six ERIC Clearinghouses were established, and the practice of a competition for three-year contracts to operate ERIC Clearinghouses was established. Although the number of ERIC Clearinghouses increased to a total of twenty-three in subsequent years, they were reduced to sixteen in the early 1970s through mergers, and the contractual period was extended to five years.

The ERIC system became part of the National Institute of Education, when it was formed in July 1973 as the research and development agency of a new Education Division within the Department of Health, Education, and Welfare. The passage of the Department of Education Organization Act in 1979, creating the United States Department of Education, transferred the continued responsibility for dissemination of educational information in the form of two programs - the ERIC, and the National Diffusion Network (NDN) established in 1974 - to the Office of Educational Research and Improvement.

Trialling and Evaluation Activities:
The initial feasibility study, preceding the development of the ERIC system, was conducted in 1959 by the School of Library Services at Columbia University in New York City where the development of an information service to support the new Media Research Program was investigated (Tauber and Lilley, 1960). This study led in 1960 to a task group of program officers in the United States Office of Education recommending that funds be awarded for the pilot operation of an information service. In 1961, the Western Reserve University in Cleveland, Ohio was provided with a grant for the design and pilot operation of the information system. This study resulted in the first machine-readable database in the social science research area, and a notable report that provided the first description of prospective ERIC services (Kent, 1962).

Numerous evaluation studies of the ERIC system are reported in research literature during its first twenty years of operation. Burchinal (1968) reported a study into the extent to which the ERIC system was meeting its objectives after two years of operation. Sherman et al. (1969) studied the operations of local ERIC reference and retrieval services. Paisley (1971) concluded from a case study of the ERIC system that it needed to be more effective in bringing its products and services to the attention of practitioners. Greenwood and Weiler (1972) reported a five-month study by the Rand Corporation of alternative models for the ERIC system. Fry (1972) reported a user survey of the use made by the educational community of ERIC reports and services, identifying that unawareness, delays and costs of document delivery, non-acceptance of the microform medium, lack of subject coverage in some areas, and practitioner rather than researcher orientation affected its use. Wanger and Henderson (1972) reported two user surveys of educators and specialists into their perceptions of the quality and utility of ERIC Clearinghouse products. Hull and Wanger (1972) proposed recommendations for making the ERIC more useful to practitioners. The report concluded that the ERIC Clearinghouses needed to be more responsive to the needs of the educational

community by improving both the announcement and product delivery systems. Katter and Hull (1976) investigated the role of the ERIC system in broader linkage strategies. In 1980, the National Institute of Education contracted King Research, Inc., to study the cost and use of the ERIC system. Data collected from access points in libraries, information centres and ERIC Clearinghouses, and cost data from site visits and archival budgetary materials indicated that ERIC products and services were being used extensively in the United States, and that only a small proportion of the cost of operating the system was being contributed by the National Institute of Education (McDonald et al., 1981).

During 1986 and 1987, the United States Department of Education conducted an evaluation of the ERIC system designed to assess the effectiveness of the existing configuration of the system and to address such longstanding problems as its lack of visibility for both the general public and many in the field of education. The study involved reviews both by staff of the United States Department of Education and by an external panel, and collection of public comment. This study, termed the ERIC Redesign Study, culminated in the publication of a widely discussed paper, entitled *ERIC In Its Third Decade* (Bencivenga, 1987), and hearings by the Subcommittee on Select Education of the Committee on Education and Labor of the House of Representatives into the ERIC system (Congress of the United States, House Committee on Education and Labor, 1987). The evaluation determined three main policy directions for the ERIC system: its products and services should be made more widely available; it should become more integrated into OERI's mission; and it should serve a wider and more diverse audience. The study recommended that these goals should be accomplished by three significant strategies: initiating a new system component, called ACCESS ERIC, to strengthen marketing, publicity, advertising, public relations and dissemination of products and services; initiating Adjunct Clearinghouses to acquire and process educational literature in specialised areas; and initiating formal users' groups called ERIC Partners (Horn and Clements, 1989).

A number of reports have described pilot studies and trials of various products and services of the ERIC system. Summit (1970) reported on the development of an online retrieval system by the Lockheed Research Laboratory and its trialling by the ERIC Clearinghouse on Educational Media and Technology at Stanford University and the Region IX Office of the United States Office of Education at San Francisco. Brandhorst (1987) reported on collaboration between the ERIC Processing and Reference Facility and SilverPlatter Information, Inc. to develop a CD-ROM version of the ERIC database, and its trialling at four sites on the East Coast of the United States during May and June 1986. Feedback from the sites was used to revise the CD-ROM version during July, prior to its initial marketing in August 1986.

The ERIC Clearinghouse on Elementary and Early Childhood Education developed and piloted ERIC Digests Online (EDO) between 1986 and 1988. Beginning in 1989, a few ERIC Digests were made available in DIALOG's online ERIC file in full text form, and subsequently through GTE Education Services.

Resources:
The *ERIC Network Directory* (1991) specified that the total staff of the ERIC system numbered 257 personnel, dispersed as follows. Central ERIC is staffed by ten personnel consisting of one full-time management professional, six full-time administrative professionals (monitors), one full-time technician, one full-time clerical, and one full-time staff member on detail to the House Appropriations Committee. The ERIC Processing and Reference Facility is staffed by twenty-one personnel consisting of two full-time and one part-time management professionals, one full-time administrative professional, seven full-time and four part-time information professionals (reference specialists, editors, and lexicographers), two full-time and three part-time technicians, and one full-time clerical. ACCESS ERIC is staffed by eight personnel consisting of two full-time management professionals, one full-time administrative professional, four full-time information professionals, and one full-time marketing and sales. The ERIC Document Reproduction Service is staffed by three personnel consisting of one full-time management professional, one full-time technician (production manager), and one full-time marketing and sales. The Oryx Press is staffed by fifteen personnel consisting of five full-time management professionals, nine full-time information professionals, and one full-time technician (production manager).

The ERIC Clearinghouse on Adult, Career, and Vocational Education is staffed by nine personnel consisting of three full-time management professionals, three full-time information professionals, and three full-time clerical. The Adjunct ERIC Clearinghouse on Consumer Education is staffed by four personnel consisting of two full-time management professionals, one full-time administrative professional, and one full-time information professional. The ERIC Clearinghouse on Counseling and Personnel Services is staffed by thirteen personnel consisting of three full-time and two part-time management professionals, three full-time and two part-time information professionals, one part-time sales and marketing, and two full-time clerical. The ERIC Clearinghouse on Educational Management is staffed by thirteen personnel consisting of two full-time and one part-time management professionals, one part-time administrative professional, two full-time and five part-time information professionals, and two full-time sales and marketing. The ERIC Clearinghouse on Elementary and Early Childhood Education is staffed by eight personnel consisting of two full-time management professionals, four full-time information professionals, and two full-time clerical. The ERIC Clearinghouse on Handicapped and Gifted Children is staffed by nineteen personnel consisting of three full-time and two part-time management professionals, one full-time administrative professional, twelve full-time information professionals, one full-time technician, and two full-time clerical. The ERIC Clearinghouse on Higher Education is staffed by ten personnel consisting of three full-time management professionals, one full-time administrative professional, three full-time information professionals, one full-time sales and marketing, and two full-time clerical. The ERIC Clearinghouse on Information Resources is staffed by nine personnel consisting of two full-time management professionals, four full-time and two part-time information professionals, and one full-time clerical. The ERIC Clearinghouse on Junior Colleges is staffed by ten personnel consisting of two full-time management professionals, one full-time administrative professional, six full-time information professionals, and one full-time clerical. The ERIC Clearinghouse on Languages and Linguistics is staffed by six personnel consisting of two full-time management professionals, one full-time administrative professional, and two full-time and one part-time information professionals. The Adjunct Clearinghouse on Literacy Education for Limited-English-Proficient Adults is staffed by nine personnel consisting of two full-time management professionals, one full-time administrative professional, and three full-time and three part-time information professionals. The ERIC Clearinghouse on Reading and Communication Skills is staffed by nineteen personnel consisting of four full-time and two part-time management professionals, four full-time and five part-time information professionals, one part-time technician, and two full-time and one part-time clerical. The ERIC Clearinghouse on Rural Education and Small Schools is staffed by thirteen personnel consisting of three full-time management professionals, seven full-time and one part-time information professionals, and two full-time clerical. The ERIC Clearinghouse on Science, Mathematics, and Environmental Education is staffed by nine personnel consisting of two full-time management professionals, six full-time information professionals, and one full-time clerical. The ERIC Clearinghouse on Social Studies/Social Science Education is staffed by eleven personnel consisting of three full-time management professionals, five full-time information professionals, and three full-time clerical. The Adjunct ERIC Clearinghouse on Art Education is staffed by four personnel consisting of two full-time management professionals, one full-time information professional, and one full-time clerical. The Adjunct ERIC Clearinghouse for United States-Japan Studies (National Clearinghouse for United States-Japan Studies) is staffed by four personnel consisting of two full-time management professionals, one full-time information professional, and one full-time clerical. The ERIC Clearinghouse on Teacher Education is staffed by nine personnel consisting of two full-time and one part-time management professionals, one full-time administrative professional, and five full-time information professionals. The ERIC Clearinghouse on Tests, Measurement, and Evaluation is staffed by seven personnel consisting of two full-time management professionals, and four full-time information professionals, and one full-time clerical. The ERIC Clearinghouse on Urban Education is staffed by twelve personnel consisting of one full-time management professional, one full-time administrative professional, and six full-time and three part-time information professionals. The Adjunct ERIC Clearinghouse on Chapter 1 (Compensatory Education) is staffed by two personnel consisting of one full-time management professional, and one full-time information professional.

The ERIC Clearinghouses recently began using standardised sets of equipment. The components of one of these sets comprise a minimum of one IBM-XT and one IBM-AT (or compatibles), each with at

least 640K RAM, or 360K floppy disk drive, one serial and one parallel port, video graphics board, 20 megabyte hard disk, near-letter-quality printer, 2400 baud fully Hayes-compatible modem, and a CD-ROM disk player.

Training:
Newly employed information professionals are trained on the job by incumbent staff, using actual forms. A self-instructional training workbook, the *ERIC Abstractor/Indexer Workbook* , is used to train the skills of abstracting and indexing to information professionals.

The staffs of ERIC Clearinghouses conduct workshops at meetings of professional associations and for groups of educators, schools of education, and subscribers to ERIC products.

DIALOG Information Services, Inc. has designed as File 201 a program, ONTAP ERIC, to provide online training for database searchers (Jackson, 1981). BRS Information Technologies provides training sessions throughout the United States, Canada, Europe and the Australasian region for new, experienced and specialised users. Tailored training courses can be arranged to cater for the needs of individual organisations. One-day introductory and half-day advanced training programs for users of the BRS Search Service are currently available in Australia at Sydney, Melbourne, Canberra, Adelaide, Brisbane, Perth, and Hobart.

Prospective Products and Services:
Stonehill and Brandhorst (1992) state that the OERI proposes to develop and implement within the ERIC system eight prospective improvement initiatives, as follows.

(i) ERIC in the Schools and Community - Achieving the National Education Goals: In September 1989, President Bush held an education summit meeting with the state governors in Charlottesville, Virginia, to consider ways to bring about changes in the system that would make the United States internationally competitive by the year 2000. Following the summit meeting, the National Governors' Association Task Force on Education worked with presidential designees to develop and recommend to the president and governors six performance goals to be achieved by the year 2000: readiness for school of all beginners; high school graduation by 90% of leavers; student achievement and citizenship demonstrated by all students leaving grades four, eight, and twelve; science and mathematics achievement of American students will be first in the world; adult literacy and lifelong learning of Americans will be universal; and safe, disciplined and drug-free schools will be universal. The six goals, which were adopted in 1990, are the foundation for America 2000. By 1993, schools and communities throughout the United States will be considering how they might become New American Schools and America 2000 Communities. The ERIC will provide access to the most current information through its database and other publications for schools, communities, 'design teams' funded by the New American Schools Corporation, Governors' Academies and other institutions.

(ii) Full-text Delivery of Education Materials: The ERIC is working with an information company to develop a CD-ROM product, Compact ERIC, containing the full texts of major policy papers and reports, materials intended for practical use, journal articles, and complete issues of approximately 100 core education journals. The prototype CD-ROM has been field-tested recently.

(iii) Diversification of Funding Sources: The ERIC is pursuing funding from other sources to support expanded coverage in topic areas of special interest to these groups, and charging reasonable usage fees to be collected by online and CD-ROM vendors.

(iv) Coverage and Delivery of Non-Print Materials: The ERIC is investigating ways of indexing and copying non-print materials, such as videotapes, multi-media packages, computer diskettes, CD-ROMs, and interactive videodisks.

(v) Expanded International Activities: The ERIC has been participating in activities to disseminate information internationally in three main areas: cooperative work with the International Association of Universities and the United Nations Educational, Scientific and Cultural Organisation (UNESCO) to develop a bibliography of higher education materials;

discussions with the United States Information Agency and the Agency for International Development on ways to make ERIC materials available to developing countries; and cooperating with the Australian Education Index, British Education Index and Canadian Education Index to develop an integrated database. A meeting of representatives of these information providers held in Washington, D.C. from 31 October to 1 November 1991 resolved to include the Canadian Education Index and the Australian Education Index as part of a cluster of English language databases available online through DIALOG Information Services, Inc., to provide similar services on CD-ROM, to publicise the availability and methods for acquisition of documents indexed by these services, and to work towards common standards for information handling and dissemination.

(vi) ERIC Research and Development Partners: The ERIC proposes to collaborate with commercial and academic organisations on research and development activities related to ERIC products and services with the intent of improving access to education information in schools.

(vii) Greater Comprehensiveness of Coverage: The ERIC intends to cover the articles in a list of 100 journals cover-to-cover, rather than on a selective basis.

(viii) Value-added Services: The ERIC Clearinghouses will continue to identify 'best' materials for inclusion in the full-text CD-ROM, Compact ERIC.

INPUT

Sources:

Each of the major components of the ERIC system has particular responsibilities and roles in acquiring documents for inclusion in RIE. Central ERIC is responsible for policy setting, guidance, coordination, and monitoring, as well as acquiring publications and contracted reports from the United States Department of Education. The ERIC Processing and Reference Facility acquires all documents produced by federal agencies (except for the United States Department of Education), state departments of education, major education associations, educational publishers, and from foreign sources. The ERIC Clearinghouses have the responsibility to collect all other documents as defined by their respective subject areas.

Particular methods are defined for each component of the ERIC system to follow in acquiring documents. The ERIC Processing and Reference Facility receives from Central ERIC and approves documents published by United States Department of Education, receives unsolicited documents, requests automatic distribution of all documents produced by particular organisations, requests specific documents from authors, purchases documents from certain agencies such as the United States Government Printing Office and the UNESCO, undertakes specific and standing orders, and presents general solicitations to specific organisations. The ERIC Processing and Reference Facility assigns documents to the ERIC Clearinghouses, records and reports information on acquisitions to Central ERIC. The ERIC Clearinghouses contact previous document contributors, collect papers from conference organisers, contact professional associations, foundations, non-profit organisations, and journal editors for unpublished articles. The ERIC Clearinghouses are required to follow acquisitions operations that employ a sequence of procedures: using relevant source tools and documents; checking existing acquisition arrangements; requesting documents using form letters; checking documents upon receipt to determine either on-order or unsolicited status; acknowledging receipts; resolving copyright and reproduction release issues; evaluating documents with selection criteria; preparing information on acquisitions for the ERIC Processing and Reference Facility; recording contributor details; and forwarding rejection notices.

The CIJE contractor maintains the Source Journal List, consisting of all journals covered. Each journal is assigned on the basis of subject matter to a particular Clearinghouse, which then subscribes to the journal. Information on new candidate journals is sent to the relevant Clearinghouse, which recommends its acquisition to Central ERIC and the CIJE contractor.

Rules and guidelines for acquiring documents and journal articles are specified in Section II, Acquisitions, of the *ERIC Processing Manual*. This section consists of seven components: an Introduction, defining the role of document acquisition within the ERIC information service; Acquisition Responsibilities, describing the responsibilities of each component of the ERIC system

in acquiring documents; Acquisition Methods and Techniques, describing methods and tools to be used for acquiring documents; Central ERIC Role in Acquisitions, describing the role and responsibilities of Central ERIC in acquiring documents; Clearinghouse Acquisition Efforts, describing the types, sources and tools to be used, treatment of documents received from Central ERIC and the ERIC Processing and Reference Facility, questions of copyright and reproduction release, treatment of foreign documents, and recordkeeping and reporting procedures; ERIC Facility Acquisitions Program, describing its purpose, sources, assignment of documents to Clearinghouses, and recordkeeping and reporting procedures; and Current Index to Journals in Education, describing the processes for acquiring successive issues of listed journals.

The ERIC permits editing of records after the publication of the announcement journals for RIE and CIJE under certain circumstances. A particular method is defined for processing the editing of records. The Clearinghouses send recommendations for changes to particular records to editors based at the ERIC Processing and Reference Facility. The editors evaluate the change recommendations, consulting Central ERIC on problem cases, file approved changes or provide feedback to the Clearinghouses about non-acceptable changes, and subsequently edit changes to the backfile update magnetic tape sent to each vendor in time for the publication of semiannual and annual indexes. Only major spelling and typographical errors that are likely to affect contributors' sensibilities or document identity are edited.

Rules and guidelines for editing records and microfiche are specified in Section X, Database Changes (Post Publication), of the *ERIC Processing Manual*. This section consists of five components: an Introduction, describing the scope of permissable editing of the ERIC database; General Policies, describing policies on rejecting re-announcement of records, acceptable and non-acceptable changes, responsibility for making database changes, vocabulary-based changes, scheduling changes, and backfile update tapes; Procedures for Making Changes, describing actions to be taken by Clearinghouses and the ERIC Processing and Reference Facility; Procedures for Handling Duplicate Records, describing procedures for editing records; and Special Procedures for Changes Affecting EDRS, describing procedures to be used by EDRS to edit microfiche for increasing the level of EDRS availability, reducing EDRS availability, making microfiche header changes, and re-filmings.

Selection Policy:
The selection process for including documents in RIE is the responsibility of each Clearinghouse and may be performed by the Clearinghouse staff, Clearinghouse advisory board members, or specialists from the field engaged by Clearinghouses to make selection decisions. A multi-person screening committee is recommended, and one selector should be a subject matter specialist. Written guidelines for use by selection personnel, and use of an evaluation form, should be considered in some selection environments. Documents selected for inclusion in RIE must meet five criteria: appropriateness of content; suitability of format, medium and document type; quality of content; legibility and reproducibility; and availability. On this basis, approximately 52% of documents submitted are selected for inclusion in RIE.

The policy covering articles to be included in CIJE is based upon selection at the journal level. Clearinghouses nominate appropriate journals for inclusion in the Source Journal Index, which are approved or disproved by Central ERIC. Approved journals included in the Source Journal Index are grouped into three categories: education core journals, which are covered for all articles; education-related journals, in which articles not related to education are excluded; or non-education journals. In addition to its regular journal load, a Clearinghouse is permitted to include any good quality, education-related article that may be detected in some other journal not regularly covered. Because journal articles are not handled by the ERIC Document Reproduction Service, it is permissable for multiple issues of an obscure journal to be announced in RIE and the full text to be stored on microfiche.

Rules and guidelines for selecting documents and journal articles are specified in Section III, Selection, of the *ERIC Processing Manual*. This section consists of eight components: an Introduction, describing the process for selecting documents; Scope of Interest (Subject Matter), defining the field of education as a criterion for selection and the nature of the defined scope within this field for each Clearinghouse; Types of Documents/Publications, listing most suitable, acceptable by having

wide applicability or being exemplary products, and unsuitable documents; Quality of Content, describing eleven criteria - contribution to knowledge and significance, relevance, new applications of knowledge and innovative practices, effectiveness of presentation and thoroughness of reporting, responsiveness to current priorities, timeliness, authority of author, audience and comprehensiveness, even-handedness and balance on controversial issues, stance on ethnic and gender issues, and treatment accorded material with sexual content - that relate to selection decisions; Legibility and Reproducibility, describing the physical qualities of documents necessary for successful reproduction on microfiche and paper copy; Availability, describing the necessity for selected materials to be available through the ERIC Document Reproduction Service or an external source; Factors to be Considered in Selecting Certain Types of Documents, describing specific characteristics to be considered in selecting dissertations and theses, brief materials, corporation-produced materials, bibliographies, documents that cannot be reproduced, documents containing material of local or parochial interest, instructional materials, research reports, student-written materials, and United States Department of Education documents; and Journal/Serial Selection Issues, describing the process for selecting articles from education core journals, education-related journals, and non-education journals.

Entry Processes:
Particular methods are defined for each component of the ERIC system to follow in handling documents. The ERIC Processing and Reference Facility checks the on-order file, establishes title control of in-process documents, checks for duplicate coverage, assigns to the relevant Clearinghouse all candidate RIE documents received. Documents shipped to the ERIC Processing and Reference Facility from the Clearinghouses following processing are verified in a log sheet, assigned ERIC accession numbers by computer, matched to their resumes, and then shipped to the ERIC Document Reproduction Service at the end of each month. Two copies of each microfiche are shipped by the ERIC Document Reproduction Service to the ERIC Processing and Reference Facility, which checks the microfiche quality, retains one copy for the Facility Reference Library and sends the other copy to the relevant Clearinghouse.

The ERIC Clearinghouses establish their own procedures to control handling of candidate RIE documents, which include expediting priority documents, duplicate checking, checking reproduction releases, mailing reply cards for rejected documents, assigning Clearinghouse accession numbers, transferring documents of inappropriate subject matter to the appropriate Clearinghouse, assigning overlap scope labels to documents whose subject matter overlaps the subject matter covered by other Clearinghouses, and listing all processed documents on the monthly Acquisitions Data Report, required by the ERIC Processing and Reference Facility for identifying duplicates. Once processed, the Clearinghouses ship RIE documents accompanied by the Clearinghouse accession log sheet to the ERIC Processing and Reference Facility.

Rules and guidelines for shipping and handling documents and journal articles are specified in Section IV, Handling and Shipping, of the *ERIC Processing Manual*. This section consists of five components: an Introduction, describing the scope of handling and shipping documents both ways between the ERIC Processing and Reference Facility and the Clearinghouses; Facility Handling, describing procedures for handling candidate documents for RIE, documents shipped to the ERIC Processing and Reference Facility by the Clearinghouses, and microfiche shipped to the ERIC Processing and Reference Facility by the ERIC Document Reproduction Service; Clearinghouse Handling, describing procedures for handling acquired documents; Shipping, describing materials and procedures to be used for shipping documents; and CIJE Input, describing procedures for handling and shipping material relating to CIJE.

Information professionals in each Clearinghouse catalogue documents and articles on Resume Forms using rules, detailed in Section V, Cataloguing, of the *ERIC Processing Manual*, for as many as twenty items: assign a Clearinghouse accession number; specify the publication date; specify the level of availability of RIE documents from the Reproduction Release Form; specify the title; specify the journal citation; assign a three-digit numeric code indicating the publication type; assign descriptors from terms selected from the *Thesaurus of ERIC Descriptors*; describe an informative abstract; specify the personal author's name; specify the institutional source for RIE documents; specify the sponsoring agency for RIE documents; specify the report number for RIE

documents; specify the contract or grant numbers of RIE documents; specify the descriptive note excluding the pagination; specify availability source for the source document; specify the geographic source for RIE documents; specify the governmental status for RIE documents; assign identifiers from terms selected from the *ERIC Identifier Authority List*; and specify the target audience. Information professionals in the ERIC Processing and Reference Facility catalogue documents and articles on Resume Forms using rules, detailed in Section V of the *ERIC Processing Manual*, for four items: generate the ERIC accession number by computer; assign the resume for issue in the RIE and CIJE abstract journal; generate the EDRS price code by computer; and specify the pagination of RIE documents.

Rules and guidelines for cataloguing documents and journal articles are specified in Section V, Cataloguing, of the *ERIC Processing Manual*. This section consists of three components: an Introduction, describing the rationale for ERIC cataloguing practices, rules for keying bibliographic data, types of mandatory and optional data elements, and responsibilities of ERIC components for data entry; Rules for Specific Data Elements/Fields, describing the profiles, typical entries, texts, summaries of significant rules, and examples for each data element; and Document Preparation, describing procedures for preparing documents with physical problems, legibility or reproducibility problems, and technical problems.

Information professionals are required to develop abstracts of less than 200 words to describe documents indexed in RIE and annotations of less than 50 words to describe journal articles indexed in CIJE. Abstracts and annotations can be either of two types: informative, presenting condensed versions of the essential ideas of a document or article; or indicative, presenting a description as a guide to the content and format of a document or article. The type of abstract is to be selected according to two basic rules: informative abstracts are to be used for source materials with a developed thesis (reports, speeches, and presentations); and indicative abstracts are to be used for source materials designed for reference (guides, program descriptions, instructional materials, bibliographies, multiple author works, and test materials). Abstractors must also pay attention to weighting the document and the abstract in the same proportions and with the same emphases. Care must also be given to the presentation of abstracts in a comprehensible style by following a set of stated guidelines.

Rules and guidelines for abstracting and annotating documents and journal articles are specified in Section VI, Abstracting, Annotating, of the *ERIC Processing Manual*. This section consists of eight components: Definition and Function of an Abstract, defining the types of abstracts; Selection of Abstract Type, presenting guidelines for selecting the appropriate type of abstract; Content and Emphases of an Abstract, describing the weighting to be given to particular elements of the source material; Audience for Abstracts, indicating that the style should be accessible because of the wide range of ERIC users; Rules and Authorities for Writing Abstracts, specifying rules for syntax of abstracts; Definition and Function of an Annotation, defining the types of abstracts to be used for particular types of source materials; General Approach to Annotating, defining the attributes of annotations; and Rules for Writing Annotations, specifying rules for syntax of annotations.

A modified form of coordinate indexing, rather than the conventional type of library indexing, is employed in the ERIC database in order to provide subject access to the educational literature. Coordinate indexing involves designating subject content by unit terms, either as single or multiple terms, to represent a concept. These terms are then put together or coordinated for subsequent retrieval. This form of indexing provides in-depth extraction of significant concepts in source documents for storing in a machine-readable database, as well as selective identification of major concepts for preparing printed indexes to the announcement journal. Information professionals use tools, in particular the *Thesaurus of ERIC Descriptors*, the Identifier Usage Report, the ERIC Clearinghouse Scope of Interest Guide and *ERIC Identifier Authority List*, to provide the controlled vocabulary for indexing. The indexing process involves a sequence of five steps: examining the source document to build a basic frame of reference; identifying indexable concepts by analysing the physical and organisational content; translating the major concepts into the approved terminology of the controlled vocabulary; recording the final terms on the Resume Form; and providing the document resume for review by another information professional.

Rules and guidelines for indexing documents and journal articles are specified in Section VII, Indexing, of the *ERIC Processing Manual*. This section consists of nine components: an Introduction, defining the purpose of indexing; Subject Access, explaining the use of coordinate indexing in the ERIC database; Coordinate Indexing, describing the conceptual basis of coordinate indexing; Indexing for ERIC - Purpose and Approach, explaining the purpose of using coordinate indexing in the ERIC approach; ERIC's Modified Coordinate Approach, describing the objectives of indexing in the ERIC approach; Nature of the Educational Literature, identifying the variable characteristics of educational literature; Educational Community User Groups, describing the characteristics of ERIC users; Indexing Tools, listing the available tools to be used in ERIC indexing; and Indexing Process, describing the approved process for indexing.

The information on the Resume Form is then entered into the Clearinghouse microcomputer to form a record in the ERIC database. Each Clearinghouse then transmits the data online in ASCII format to a microcomputer at the ERIC Processing and Reference Facility. Each record can be identified by a Clearinghouse Accession Number and each field on a record can be identified by an agreed-upon tag. This process has been facilitated by the recent acquisition of standardised sets of equipment in all the Clearinghouses. Before that time different protocols were used for each Clearinghouse.

Controlled Terminology:
The controlled vocabulary was developed under guidelines established by the Panel on Educational Terminology during the course of the pilot study involving documents on special educational needs of the disadvantaged. The 2,300 descriptors determined during this project were submitted for revision to a selected group of educators, librarians, and information specialists, whilst the Panel on Educational Terminology investigated projects to develop thesauri in other disciplines. This work resulted in the publication during 1966 of an interim *Thesaurus of ERIC Descriptors* and the *Rules for Thesaurus Preparation*, which outlined the basic thesaurus structure and rules for constructing and formatting terms. A term coordination procedure was established, whereby Clearinghouse indexers submitted new terms on Descriptor Justification Forms to the lexicographers for consideration. Those terms accepted were included in the *Thesaurus of ERIC Descriptors* , which increased to a plateau level of 7,300 terms by 1971 (Eller and Panek, 1968; and Eller, 1970).

A Vocabulary Improvement Program was initiated in 1973 with the establishment of the Vocabulary Review Group and the Thesaurus Advisory Panel, and development of a software program which allowed terms to be deleted and their postings to be transferred to other terms. Some fifty recommended changes to the *Thesaurus of ERIC Descriptors* were considered by the Vocabulary Review Group between 1973 and 1976. However, the cumbersome procedures involved in the Vocabulary Improvement Program led to an investigation of ways that vocabulary improvement might be accomplished in a reasonable time frame.

These new procedures were employed in the revision of the *Thesaurus of ERIC Descriptors* conducted during the Vocabulary Improvement Project (VIP), which comprised two stages, entitled Thesaurus Review and Production. Between March and August 1978, Clearinghouse vocabulary coordinators, search intermediaries and users evaluated the terms in the *Thesaurus of ERIC Descriptors*. Then, Clearinghouse vocabulary coordinators collated and assessed evaluations of assigned groups of descriptors during September and October 1978. Between November 1978 and September 1979, VIP personnel revised existing terminologies and developed new terminologies. The outcome of this revision provided more than 600 new descriptors, over 1000 deleted descriptors, and over 1000 new or modified scope notes (Booth, 1979).

Development of the controlled vocabulary is carried out by the Clearinghouse indexers within their particular subject areas with lexicographers, based at the ERIC Processing and Reference Facility, standardising this development. Prior to the VIP, this process involved only direct negotiations between the Clearinghouse indexers and the lexicographic staff. The conduct of the VIP led to the adoption of a new process, whereby the *Thesaurus of ERIC Descriptors* is regularly revised through a system-wide Vocabulary Review Group, consisting of Clearinghouse vocabulary coordinators, the ERIC lexicographers, a Central ERIC representative, and representatives of school librarians, university librarians, practitioners, online search intermediaries and the ERIC Online Users Group. This process was initiated in 1980 as the Vocabulary Development Program, in

which one procedure and a single form are used for submissions and reviews of all proposed changes to the *Thesaurus of ERIC Descriptors* . Clearinghouse indexers initiate the process by establishing the status of candidate descriptors according to five criteria: identifying whether they appear in educational literature being indexed; determining their quality as either descriptors or identifiers; determining their usefulness; determining whether they are synonyms; and identifying their characteristics in relation to ambiguity, specialisation, appearance in other thesauri, previous indexing, and rules and conventions for descriptors. Once screened, Clearinghouse indexers complete the Vocabulary Development Form, provided for recording prospective changes whether additions of new descriptors, modifications to existing descriptor displays, or descriptor deletions. All completed Vocabulary Development Forms are sent to the lexicographers, who perform preliminary reviews. The ERIC Processing and Reference Facility maintains a lexicographic collection, and additional references in Washington metropolitan libraries are consulted for complex lexicographic problems. Recommendations are then entered in the monthly Vocabulary Status Report, which serves as a medium for evaluation and feedback by the Vocabulary Review Group. Recommendations approved by the Vocabulary Review Group are entered into the *Thesaurus of ERIC Descriptors* .

A variety of rules, defined in the *Rules for Thesaurus Preparation* and the *VIP Manual: Guidelines and Procedures for ERIC Vocabulary Development*, determine the construction and organisation of the *Thesaurus of ERIC Descriptors* . Descriptors, the main terms used in the controlled vocabulary, are constructed and formatted to cover subject content, educational level, age level, and publication types according to specific rules. Descriptors are also categorised into two types: narrower terms and broader terms are used to indicate hierarchical relationships among descriptors so as to refine indexing and searching; and related terms are cross-references that are neither hierarchical nor equivalent but essential for informing users of alternative terms. In addition, 'used for' references are employed to solve problems of synonymy by directing searchers to preferred terms. Scope notes, brief statements indicating intended usage, appear with certain descriptors selected according to specific criteria. The *Thesaurus of ERIC Descriptors* is arranged according to four different sequences of descriptors: the primary alphabetical display; the rotated display, a permuted alphabetical display; the hierarchical display, depicting families of descriptors; and the descriptor group display, showing forty-one subject-related groups of descriptors.

Rules and guidelines for vocabulary development and maintenance of descriptors are specified in Section VIII, Vocabulary Development and Maintenance, Part 1, Descriptors, of the *ERIC Processing Manual*. This section consists of six components: an Introduction, defining key concepts; Lexicography as Practised in the ERIC System, describing the main functions of lexicography practised by the ERIC system; Thesaurus of ERIC Descriptors, tracing the development and future directions of the *Thesaurus of ERIC Descriptors*, and describing rules and conventions for selecting, constructing, and formatting descriptors, types of descriptors, related and other terms, and the display features presented in the *Thesaurus of ERIC Descriptors*; Evaluation and Decision Criteria for a New Descriptor, describing the aspects of criteria used to define new descriptors; Vocabulary Development Form, describing the line spacing, character limitations, field length, group codes and scope notes, main fields to be completed for adding new terms, modifying existing terms, or purging existing terms, and the justification information section of the Vocabulary Development Form, followed by procedures for transmittal and processing of the forms by lexicographers; and Vocabulary Development Program, describing the main features of the Vocabulary Development Program.

The *ERIC Identifier Authority List* (IAL), first published in 1980 as a total alphabetical list of 25,000 preferred identifiers, was the result of an identifier editorial project in which all identifiers in the ERIC database covering the period from 1966 to 1976 were reviewed. Only two structural elements, added in 1981, are used in the IAL: 'used for' cross-references directing indexers and searchers to preferred name forms; and scope notes. Identifiers are usually the names of specific entities, but may also be new concepts under consideration for descriptor status. Terms from this latter group are removed from the IAL when they are upgraded to descriptor status and shifted to the *Thesaurus of ERIC Descriptors*.. The lexicographers check all prospective identifiers by computer against the IAL, review them for proper format, and accumulate them for the monthly updating of the IAL.

Identifiers are used to add depth to indexing that is not always possible with descriptors. They are only controlled to eliminate the proliferation of variant forms of the same concept. Control is achieved by imposing format standards within twenty categories of identifiers: Conferences/Meetings, specifying formal names of gatherings; Curriculum Areas, naming courses, listings in catalogues, teaching sequences, and specific curricula; Equipment, specifying computer software and hardware, materials and equipment; Facilities, specifying physical facilities or organisations; Geographic Locations, naming continents, countries, states (U.S.A.), provinces (Canada), and physical geographic formations; Groups (Ethnic), naming ethnic groups; Groups (Occupations), naming occupational categories; Groups (Other), specifying all population groups other than ethnic and occupational groups; Health-Related, specifying names of diseases, sicknesses and disorders; Historical/Special Events, specifying events of state, national, historical and cultural significance; Languages/Linguistics, specifying proper names of languages and linguistic concepts; Laws/Legislation, specifying laws, proposed legislation, court cases and legal concepts; Methods/Theories, naming various methods, techniques, theories, standards and models; Miscellaneous, representing a potpourri of terminology from various disciplines; Organisations/Institutions, naming specific organisations, government agencies, foundations, professional associations and school districts; Personal Names, specifying names of actual individuals used as the subjects of documents; Projects/Programs, naming specific projects, programs and study surveys; Science and Technology, containing terms pertaining to physical and earth sciences; Tests/Testing, specifying tests, test batteries, statistical terms and concepts related to testing; and Titles, naming book titles, and names of journals.

Rules and guidelines for vocabulary development and maintenance of identifiers are specified in Section VIII, Vocabulary Development and Maintenance, Part 2, Identifiers, of the *ERIC Processing Manual*. This section consists of three components: an Introduction, describing the qualities of identifiers; General Guidelines/Rules Applying to All Identifiers, identifying terms that may not be identifiers, and describing formats that may not be used for identifiers; and Guidelines Applying to Identifiers in Specific Categories, describing guidelines for formatting identifiers in each of the twenty categories.

HOLDINGS

Record Numbers:

At November 1991, the RIE file comprised approximately 334,300 records; and the CIJE file comprised approximately 429,500 records.

Updating:

The RIE file increases by approximately 13,000 records annually, and the CIJE file increases by approximately 18,000 records annually.

The online services provided by both BRS Information Technologies and DIALOG Information Services, Inc. are updated each month.

The ERIC MICROsearch application is updated four times each year.

Each of the CD-ROM versions, the current editions on DIALOG OnDisc ERIC, OCLC CD450, and SilverPlatter, is available in options which are updated either quarterly or annually.

Coverage:

The RIE file covers the period from 1966 (ED 010 000>) to the present with selective retrospective coverage (ED 001 001 - ED 003 960); and the CIJE file covers the period from 1969 to the present.

Search Strategy:

The fields of the ERIC database are searched by particular strategies according to online vendor. On BRS, the fields of the ERIC database are searched by two procedures. One group of numeric and non-numeric fields is searched by free text: Accession Number (AN); Author (AU); Institutional Source (IN); Title (TI); Journal Citation (SO); Language (LG); Geographic Source (GS); Sponsoring Agency (SA); Issue Number (IS); Contract/Grant/Project Numbers (NO); Availability (AV);

Descriptive Note (NT); Year of Publication (YR); and Abstract (AB). Another group of non-numeric fields is searched by free text or by terms selected from the controlled vocabulary. Clearinghouse Code (CH) is searched by codes identifying each Clearinghouse. Governmental Status (GS) is searched by identifying from three terms: federal, state, or local. Publication Type Code (PT) is searched by the codes specified in the *Thesaurus of ERIC Descriptors*. Descriptors (DE) are searched in the forms of multiword descriptor, as words within a descriptor, as a single word descriptor, as a major subject descriptor (MJ), as a minor subject descriptor (MN), as an unbound multiword major descriptor (UJ), and as an unbound multiword minor descriptor (UN) by terms selected from the *Thesaurus of ERIC Descriptors*. Identifiers (ID) are searched by terms selected from the *ERIC Identifier Authority List*.

The fields on DIALOG in File 1 are classified into two categories: as the basic index; and as additional indexes. The basic index includes all assigned descriptors and identifiers plus all meaningful individual words and character strings from the Abstract, Descriptor, Identifier, Note, and Title fields. A particular field may be specified using a suffix code and searched by either of two ways: Abstract (/AB); Note (/NT); and Title (/TI) by free text; whilst Descriptors (/DE) are searched in the forms of multiword descriptor, as words within a descriptor, as a single-word descriptor (/DF), as a major subject descriptor (/MAJ), and as a minor subject descriptor (/MIN) by free text or by terms selected from the *Thesaurus of ERIC Descriptors*, and Identifiers (/ID) in the forms of a multiword identifier, as words within an identifier, as a single-word identifier (/IF), as a major subject identifier (/MAJ), and as a minor subject identifier (/MIN) by free text or by terms selected from the *ERIC Identifier Authority List*. The additional indexes provide access to all other fields, which are specified as prefix codes and searched by free text for Clearinghouse Number (AN=), Author (AU=), Availability (AV=), Contract/Grant Number (CN=), Country of Publication (CP=), Corporate Source (CS=), Journal Announcement (JA=), Journal Name (JN=), Language (LA=), Project Number (PN=), Publication Year (PY=), Report Number (RN=), Sponsoring Agency (SP=), and Target Audience (TA=), and by free text or by terms selected from the controlled vocabulary for Clearinghouse Code (CH=) by codes identifying each Clearinghouse, Document Type (DT=) by codes specified in the *Thesaurus of ERIC Descriptors*, and Government Status of Document (GL=) by identifying from three terms: federal, state, or local.

Record Samples:

Resources in Education (BRS):

AN ED305328.
AU Warring, Douglas F.; Lindquist, Marilyn.
TI A Collaborative Mentor-Mentee Program Based in the Bloomington, Minnesota, Public Schools.
LG EN..
GS U.S. Minnesota..
IS RIEAUG89.
CH SP030955.
PR EDRS Price - MF01/PC02 Plus Postage.
PT 150; 141.
NT 42p.; Paper presented at the Annual Meeting of the Association of Teacher Educators (St. Louis, MO, February 18-22, 1989).
YR 89.
MJ Beginning-Teachers. Helping-Relationship. Mentors. Program-Development. Teacher-Orientation.
MN Elementary-Secondary-Education. Governance. Program-Evaluation. Public-Schools.
ID IDENTIFIERS: Beginning Teacher Induction. Bloomington School District MN.
AB This paper reports on the development and implementation of a mentoring program to assist beginning teachers that was established in a public school system as part of a statewide effort to improve the induction process for teachers in Minnesota. One of the dominant characteristics of most mentor programs is the appointment of an experienced teacher to assist the new teacher in understanding the culture of the school. This support teacher, designated as a mentor, assumes a variety of responsibilities. The report examines the overall development of the mentorship program, including: (1) rationale, goals and outcomes; (2) development model; (3) selection processes for mentors and mentees; (4) mentor

roles and functions; (5) staff development opportunities; (6) advisory bodies and monitoring systems; (7) coalitions; (8) dissemination of findings, techniques and materials; and (9) local evaluation instruments and findings. A bibliography is included and a copy of the program's newsletter and a list of projected future activities are appended. (JD).

Current Index to Journals in Education (BRS):

AN EJ386450.
AU Finney, Doug.
TI Student Competition: Plague or Pestilence.
SO Design for Arts in Education; v90 n3 p38-41 Jan-Feb 1989. 89.
LG EN..
IS CIJJUL89.
CH SO519070.
AV UMI.
YR 89.
MJ Art-Education. Competition. Student-Participation. Theater-Arts.
MN Achievement-Need. Art-Activities. Goal-Orientation. High-Schools. Performance-Program-Effectiveness. Program-Evaluation.
ID TARGET AUDIENCE: Teachers. Practitioners.
AB Argues that theater students must be encouraged to keep competition in perspective. Points out that too often program growth and support are dependent upon the number of honors that participants receive. Emphasizes that competition should be engaged in for its positive learning potential or should be abandoned as a student activity. (KO).

Resources in Education (DIALOG):

AN,CH ED271510 TM860421
TI Effects of Ability Grouping in Secondary Schools in Great Britain.
AU Kerckhoff, Alan C.
CS Ohio State Univ., Columbus. National Center for Research in Vocational Education.
PY 1985
50p.
SP Sponsoring Agency: National Inst. of Education (ED), Washington, DC.
CN Grant No.: NIE-G-83-0005, P - 1
AV EDRS Price - MF01/PC02 Plus Postage.
LA Language: English
DT Document Type: RESEARCH REPORT (143)
CP Geographic Source: U.S.; Ohio
JA Journal Announcement: RIENOV86
AB This paper reports the findings of an investigation of the effects of school organisation and ability grouping on students' academic achievements in Great Britain. Data for the study came from the National Child Development Study (NCDS) conducted by the National Children's Bureau (NCB) of London. The NCDS surveyed virtually every child born in England, Scotland, and Wales during the week of March 3-9, 1958, and the present study included data from follow-up studies conducted when the cohort was 7, 11, and 16 years old. Types of schools attended by the cohort were: (1) comprehensive; (2) grammar; (3) secondary modern schools in the state sector, and (4) private schools. Some, but not all, of the schools practiced ability grouping. Measures included as control variables were social background, parent influences, and school influences. Results of the study showed that separation of students into ability groups had an effect on achievement test performance in both reading and mathematics. The four types of schools received students whose average earlier test performance varied systematically in ways that were consistent with the social definitions of the schools. The several types of ability groups included students whose earlier performance suggested they had the designated levels of ability. (LMO)
DE Descriptors: *Ability Grouping; *Academic Achievement; Analysis of Variance; Cohort Analysis; Educational Background; Elementary Secondary Education; Foreign Countries; Longitudinal Studies; *Mathematics Tests; Parent Influence; *Reading Comprehension;

Regression (Statistics); *School Organization; *Scores; Sex Differences; Social Background; Tables (Data)

ID Identifiers: *Great Britain; National Child Development Study

Current Index to Journals in Education (DIALOG):

AN,CH EJ330143 IR514912

TI VCRs Silently Take over the Classroom.

AU Reider, William L.

JN TechTrends, v30 n8 p14-18 Nov-Dec 1985

AV Available from: UMI

LA Language: English

DT Document Type: JOURNAL ARTICLE (080); POSITION PAPER (120); PROJECT DESCRIPTION (141)

JA Journal Announcement: CIJMAY86

TA Target Audience: Practitioners

AB Discusses the rapid growth of videocassette recorder (VCR) use in schools; compares ways in which VCRs, audiovisual materials, and microcomputers are used in classrooms; and suggests reasons for the dramatic increase in VCR use. The successful implementation of VCR technology in the Baltimore County School System (Maryland) is described. (MBR)

DE Descriptors: Adoption (Ideas); *Audiovisual Aids; *Educational Trends; Financial Support; Futures (of Society); *Microcomputers; Teacher Role; *Videotape Cassettes; *Videotape Recorders

ID Identifiers: *Baltimore County Public Schools MD; Standardization

OUTPUT

Print and Computer-based Products:

Both files of the ERIC database are accessible offline in print, online, on magnetic tape designed for installation on local retrieval systems, and on CD-ROM.

The printed form of the ERIC database is produced in the form of two, monthly journals with semi-annual cumulations: *Resources in Education (RIE)*, published by the United States Government Printing Office, Washington, DC 20402; and *Current Index to Journals in Education (CIJE)*, published by the Oryx Press.

Public online access to the ERIC database is provided through BRS Information Technologies, 8000 Westpark Drive, McLean, VA 22102, U.S.A., and DIALOG Information Services, Inc., 3460 Hillview Avenue, Palo Alto, CA 94304, U.S.A. Public online access to ERIC Digests Online is provided by DIALOG Information Services, Inc., and GTE Education Services, 1090 Vermont Avenue, Suite 800, Washington, DC 20005, U.S.A. GTE Education Services also provides the *Directory of ERIC Information Service Providers*, the *ERIC Directory of Education-Related Information Centers*, and the *ERIC Calendar of Education-Related Conferences* as online directories.

The ERIC Clearinghouse on Information Resources provides a bulletin board listing recent publications, procedures for submitting documents to ERIC, search service information, ERIC news, and an electronic mail facility.

The ERIC Clearinghouse on Information Resources also provides its own input into the ERIC database through ERIC MICROsearch, a program which allows computer diskettes to be searched on IBM compatible and Apple microcomputers (Clark, 1982; and Klausmeier, 1985a, 1985b).

Computer-compatible magnetic tapes (ERICTAPES) containing the contents of the ERIC database and related authority files and inverted files are available from the ERIC Processing and Reference Facility.

The ERIC Document Reproduction Service provides the ERIC Starter Kit, a combination of microfiche of all document records in RIE together with RIE indexes.

Access to the ERIC database through CD-ROM is available from DIALOG Information Services,

Inc., 3460 Hillview Avenue, Palo Alto, CA 94304, U.S.A. on DIALOG OnDisc ERIC, from Online Computer Library Center (OCLC), 6565 Frantz Road, Dublin, OH 43017, U.S.A. on OCLC CD450, and from SilverPlatter Information, Inc., One Newton Executive Park, Newton Lower Falls, MA 02162, U.S.A. The CD-ROM edition available from DIALOG Information Services consists of a current disk covering the period from 1980 to the present, and an archival set of one disk covering the period between 1966 and 1979. The CD-ROM edition available from OCLC consists of a current disk covering the period from 1983 to the present, and an archival set of two disks one covering RIE for the period between 1966 and 1982, and the other CIJE for the period between 1969 and 1982. The CD-ROM edition available from SilverPlatter Information, Inc. consists of a current disk covering the period from 1983 to the present, and an archival set of two disks covering the period between 1966 and 1975, and 1976 and 1982 (McLaughlin, 1987; Reese and Steffey, 1987; Reese, 1988; and Bane and Tanner, 1989).

Publications and Publicising Aids:
The ERIC produces three types of publications: ERIC reference tools; ERIC directories and information products; and publicising aids. The ERIC reference tools consist of eight groups of publications: the two monthly abstract journals, *Resources in Education (RIE)*, and *Current Index to Journals in Education (CIJE)*; the *Thesaurus of ERIC Descriptors*; the *ERIC Identifier Authority List*, available in two volumes as Alphabetical Display and Category Display; the *ERIC Processing Manual*, consisting of ten components (Introduction, Acquisitions, Selection, Handling and Shipping, Cataloguing, Abstracting and Annotating, Indexing, Vocabulary Development and Maintenance, Data Entry, and Database Changes); a set of ERIC Ready References intended for posting near computer terminals, comprising 16 components (1. ERIC Accession Number Ranges; 2. ERIC Publication Types; 3. Sample Document Resume; 4. How to use the *Thesaurus of ERIC Descriptors* for an effective ERIC search; 5. ERIC Price Codes; 6. ERIC Clearinghouses and Other Network Components; 7. ERIC Fact Sheet; 8. Target Audience; 9. ERIC Digests; 10A. ERIC Digests: A Complete List of All ERIC Digests to Date Arranged Alphabetically; 10B. ERIC Digests: A Complete List of All ERIC Digests to Date Arranged by Clearinghouse; 11. ERIC Microfiche Statistics: Resources in Education, 1966-1990; 12. ERIC Telephone Directory; 13. ERIC Search Aids; 14. Document Delivery; 15. The Costs of Becoming an ERIC Information Service Provider; and 16. What kinds of documents are in the ERIC database (RIE)?); a *Source Journal Index*; an *Institutional Source Directory*, and an *ERIC/RIE Title Index*.

The ERIC directories and information products consist of six publications: the *Directory of ERIC Information Service Providers*, listing organisations providing users with access to the ERIC database and related resources; the *ERIC Directory of Education-Related Information Centers*, listing resource centres providing information in education-related areas for ERIC users; the *ERIC Calendar of Education-Related Conferences*; the *ERIC Training Opportunities and Products*, containing information about training products and opportunities; the *Catalog of ERIC Clearinghouse Publications*, listing current publications produced by the ERIC Clearinghouses and support components; and the *ERIC Clearinghouse Publications: An Annotated Bibliography of Information Analysis Products and Other Major Publications*, an annual bibliography of all ERIC system publications entered into the database during that year.

The publicising aids consist of a variety of brochures and newsletters: a 28-page information booklet, *All About ERIC*; a 9-page information brochure, *A Pocket Guide to ERIC*; a 2-page brochure, *Submitting Documents to ERIC*; a 2-page brochure, *Searchable Fields in ERIC*; a 1-page brochure, *To access ERIC ... Call ACCESS ERIC*; a set of Conclusion Brochures presenting significant findings of recent research on topics of interest to parents and educators; a newsletter, *The ERIC Review*, published three times annually; and an irregular newsletter, *Interchange*.

In addition, each of the ERIC Clearinghouses produces state-of-the-art reports, interpretative summaries, syntheses, digests, and other publications.

The ERIC Document Reproduction Service produces and uses a two-page order form.

BRS Information Technologies publishes an aid page and a database guide for the ERIC database. DIALOG Information Services, Inc. publishes a database guide.

Microforms and Source Documents:
The full texts of records contained in the ERIC database are available in two forms: approximately 90.4% of documents from the RIE file are available in microfiche from the ERIC Document Reproduction Service; and document reproductions in paper copy of documents from the RIE file are available from the ERIC Document Reproduction Service, and of articles from the CIJE file are available from University Microfilms International, Article Clearinghouse, 300 North Zeeb Road, Ann Arbor, MI 48106, U.S.A. and the Institute for Scientific Information, Genuine Article Service, 3501 Market Street, Philadelphia, PA 19104, U.S.A. The microfiche of documents from the RIE file are also available at an economical rate in the form of annual collections from the ERIC Document Reproduction Service.

Access:
The United States Government Printing Office markets *Resources in Education (RIE)* for an annual subscription of $US 94.00 to United States subscribers and $US 117.50 to foreign subscribers. The Oryx Press markets RIE Annual Cumulations of abstracts and indexes for $US 345.00 to North American subscribers and $US 395.00 to foreign subscribers, *Current Index to Journals in Education (CIJE)* for a monthly subscription with semiannual cumulations for $US 430.00 to North American subscribers and $US 510.00 to foreign subscribers, the *Thesaurus of ERIC Descriptors* for $US 69.50 to North American subscribers and $US 83.40 to foreign subscribers. The ERIC Processing and Reference Facility markets the *ERIC Identifier Authority List* as volume I for $US 40.00 to United States subscribers and $US 50.00 to foreign subscribers and volume II for $US 35.00 to United States subscribers and $US 45.00 to foreign subscribers, the *ERIC Processing Manual* for $US 40.00 to United States subscribers and $US 60.00 to foreign subscribers with individual sections for $US 3.75, the ERIC Ready References for no charge, the *Source Journal Index* for no charge, the *Institutional Source Directory* in a complete edition for $US 40.00 to United States subscribers and $US 50.00 to foreign subscribers and a truncated edition for $US 30.00 to United States subscribers and $US 40.00 to foreign subscribers, and the *ERIC/RIE Title Index* in the 1990 cumulation with 1991 quarterly supplements for $US 60.00 to United States subscribers and $US 70.00 to foreign subscribers with back issues dating from 1966.

ACCESS ERIC markets the *Directory of ERIC Information Service Providers* for no charge, the *ERIC Directory of Education-Related Information Centers* for $US 10.00, the *ERIC Calendar of Education-Related Conferences* for no charge, the *ERIC Training Opportunities and Products* for no charge, and the *Catalog of ERIC Clearinghouse Publications* for no charge. The ERIC Processing and Reference Facility markets the *ERIC Clearinghouse Publications: An Annotated Bibliography of Information Analysis Products and Other Major Publications for* no charge.

ACCESS ERIC markets the brochures, *All About ERIC, A Pocket Guide to ERIC, To access ERIC ... Call ACCESS ERIC;* the Conclusion Brochures, *The ERIC Review*, and *Interchange* for no charge. The ERIC Processing and Reference Facility markets *Documents to ERIC*, and *Searchable Fields in ERIC* for no charge.

Clients pay a fee of $US 36.00 per hour plus 15 cents per unit to DIALOG Information Services, Inc. for online access to the ERIC database on File 1. Clients pay a fee of $US 31.00 per hour plus 20 cents per unit to BRS Information Technologies for online access to the ERIC database on BRS Search Service. The ERIC database is available on three BRS products: within BRS/Search Service on BRS/Educator, a specially priced plan available exclusively for professionals working in educational settings and BRS/Instructor, designed to enhance the teaching of online searching techniques; on BRS Colleague providing access to the world of biomedical literature and information; and on BRS/After Dark providing BRS/Search Service at reduced rates for evening and weekend use. BRS Information Technologies also provides discounts for high-volume users in the form of three advance purchase plans: open access; annual commitment by advance purchase; and annual commitment by monthly installment. Online searching of the ERIC database through all vendors totals approximately 100,000 hours annually.

BRS Information Technologies markets an aid page for no charge and a database guide for $US 7.50.

The computer diskettes for ERIC MICROsearch are available in two versions: at $US 7.50 for Apple microcomputers; and at $US 10.00 for IBM compatible microcomputers. A demonstration set containing the program disk, manual and database diskette is available for each version: at $US 20.00 for Apple microcomputers; and at $US 49.00 for IBM compatible microcomputers.

The ERIC Processing and Reference Facility supplies 40 subscriptions for computer-compatible magnetic tapes (ERICTAPES) annually.

The ERIC Document Reproduction Service markets each microfiche, covering from 1 to 96 pages of a RIE document, for $US 0.25, with the complete backfile of 429,166 microfiche covering 285,080 documents from 1966 to 1990 for $US 56,000.75. The ERIC Document Reproduction Service, University Microfilms International, and the Institute for Scientific Information market paper copies of RIE documents and CIJE articles for $US 3.12 for every 25 pages. The ERIC Document Reproduction Service sells approximately 14,950,000 microfiche to 850 standing orders, and together with sales of back collections, collections by Clearinghouses, and on demand orders, sales of microfiche total approximately 19,400,000 annually.

DIALOG OnDisc ERIC is marketed at $US 795.00 for the current disc, $US 1,295.00 for the starter set of quarterly updates and archives, with the renewal price set at $US 750.00. This product includes the ERIC database on two CD-ROMs consisting of a current disk and one archival disk, quarterly or annual updates, with two searching options (the DIALOG command language and a menu), complete system documentation, and toll-free customer support for clients. DIALOG OnDisc ERIC runs on an IBM PC and compatibles with hardware requirements of 512K of RAM, a hard disk drive, a CD-ROM drive and controller card. OCLC CD450 is marketed at $US 400.00 for the current disk to OCLC member libraries and associates, $US 475.00 for the current disk to non-members, $US 750.00 for the retrospective disks to OCLC member libraries and associates, and $US 900.00 for the retrospective disks to non-members, $US 1,050.00 for the complete set of disks to OCLC member libraries and associates, and $US 1,150.00 for the complete set of disks to non-members. The complete set of this product consists of four CD-ROMs, containing the ERIC database on three CD-ROMs consisting of a current disk and two archival disks plus the OCLC Education Library on one CD-ROM, quarterly or annual updates, a user manual, reference guide, search software diskette, and one year of software maintenance. OCLC CD450 is available for both IBM PC and compatibles with hardware requirements of 512K of RAM, a hard disk drive, and for Apple Macintosh. The SilverPlatter CD-ROM version is marketed at $US 650.00 for the current disk and quarterly updates, $US 390.00 for the current disk and annual updates, $US 1,200.00 for the starter set of quarterly updates and archives, with the renewal price set at $US 650.00. This product includes the ERIC database on three CD-ROMs consisting of a current disk and two archival disks, quarterly or annual updates, SilverPlatter software, on-disc help screens and database Guides, comprehensive printed documentation including a tutorial and a thesaurus, toll-free customer support for clients in U.S.A., Canada, U.K. and Germany, and a subscription to *The SilverPlatter Exchange* newsletter. The ERIC database is available in SilverPlatter's search software for both IBM PC and compatibles (PC SPIRS with hardware requirements of 640K of RAM, a hard disk drive, PC DOS or MS DOS version 3.1 or higher, a CD-ROM drive and controller card, and MS DOS CD-ROM extensions 2.0 or higher), and Apple Macintosh (MacSPIRS with hardware requirements of MacPlus, SE, or II series, two MB RAM, a hard disk drive, system 6.02 or higher, and a CD-ROM drive). Sales of ERIC on CD-ROM by all vendors total approximately 2000 subscriptions annually.

Products and services are available without restrictions.

Client Groups:
The booklet, *All About ERIC* (1990), provided the following statistical data on the use of the ERIC database by the following client groups: researchers and professors (18%); administrators and school board members (16%); librarians and information specialists (15%); teachers (15%); other professionals (11%); students (10%); parents and the general public (8%); civil servants (6%); and journalists (1%).

Although the ERIC database is most extensively used in the United States, it is reported to be used

currently in 90 countries for half a million searches annually. An analysis of ERIC information service providers, listed in the *Directory of ERIC Information Service Providers* (1990), indicates the following geographic distribution: 793 for the United States including Alabama 13, Alaska 4, Arizona 6, Arkansas 11, California 57, Colorado 13, Connecticut 9, Delaware 3, District of Columbia 20, Florida 27, Georgia 23, Hawaii 2, Idaho 4, Illinois 28, Indiana 14, Iowa 7, Kansas 12, Kentucky 12, Louisiana 16, Maine 7, Maryland 20, Massachusetts 22, Michigan 23, Minnesota 10, Mississippi 13, Missouri 19, Montana 6, Nebraska 8, Nevada 3, New Hampshire 5, New Jersey 22, New Mexico 6, New York 65, North Carolina 25, North Dakota 2, Ohio 2, Oklahoma 15, Oregon 10, Pennsylvania 31, Rhode Island 3, South Carolina 10, South Dakota 3, Tennessee 15, Texas 55, Utah 6, Vermont 3, Virginia 22, Washington 14, West Virginia 9, Wisconsin 21, Wyoming 1, and outlying U.S. territories 9; 48 for Canada including Alberta 5, British Columbia 4, Manitoba 3, New Brunswick 3, Newfoundland 1, Nova Scotia 3, Ontario 15, Quebec 10 and Saskatchewan 4; 27 for Australia including Australian Capital Territory 5, New South Wales 7, Queensland 5, South Australia 1, Victoria 7, Tasmania 1, and Western Australia 1; Belgium 1; Denmark 1; England 4; Finland 1; France 1; Hong Kong 1; Israel 1; Italy 1; Japan 2; Lebanon 1; Malaysia 2; Mexico 3; Netherlands 2; New Zealand 2; Norway 1; Philippines 1; Singapore 1; South Africa 1; Sweden 2; Switzerland 2; and Germany 6.

REFERENCES

Bibliography:

The references listed in this bibliography form only a small proportion of the available literature about the ERIC. These citations include references to documents of historical interest in the development of ERIC, evaluations of ERIC performance, and research on particular ERIC products and services. A complete bibliography, covering the period to 1988, is provided in Slawsky and Brandhorst (1978), Brandhorst (1985), and Brandhorst (1989). Most of the references cited in this bibliography have been selected from these sources, and supplemented by a search of the ERIC database for the period, 1989-1991.

Bane, R.K. and Tanner, D.F.
'Optical disc technology. Databases on CD-ROM: a tale of two ERICs'
Technological Horizons in Education, 16: 9, 51-55 (1989)
ERIC EJ 397 056
Discusses the components and features of ERIC on CD-ROM.

Barhydt, G.C and Schmidt, C.T
Information Retrieval Thesaurus of Education Terms
Cleveland, OH: Case Western Reserve University Press (1968)
Reports on the early development of the *Thesaurus of ERIC Descriptors*.

Barnett, L.
'Indexing in ERIC'
In: Feinberg, H. (ed.), *Indexing Specialized Formats and Subjects*
Metuchen, NY: Scarecrow Press, 109-152 (1983)
ERIC ED 258 595
Describes how the ERIC addresses indexing problems resulting from broad subject areas, diverse clientele, dual manual and computer retrieval, and the inexactness of the indexing language.

Bencivenga, J.J. et al.
ERIC redesign. Papers issued for public comment. 1986-1987
Washington, DC: Office of Educational Research and Improvement (1987)
ERIC ED 278 429
Presents a collection of documents related to the United States Department of Education review of the ERIC system that were distributed for public comment. The collection consists of three components: ERIC in its Third Decade; Domains or Scope Areas to be Included in the ERIC System; and Summary of the Educational Resources Information Center (ERIC) Redesign.

Booth, B.
'A look at ERIC after ten years'

Education Libraries Bulletin, 18: 3, 1-11 (1975)
ERIC EJ 129 860
Reviews the status of the ERIC system after ten years of operation.

Booth, B.
'A "new" ERIC Thesaurus, fine tuned for searching'
Online, 3: 3, 20-29 (1979)
ERIC EJ 208 342
Describes the Vocabulary Improvement Project.

Brandhorst, T.
'ERIC: reminders of how it can help you'
Phi Delta Kappan, 58: 8, 627-630 (1977)
ERIC EJ 156 997
Describes the ERIC system including three case histories demonstrating its usefulness.

Brandhorst, T. (ed.)
A Bibliography of Publications about the Educational Resources Information Center (covering the period 1979-1984)
Bethesda, MD: ERIC Processing and Reference Facility (1985)
ERIC ED 262 784
Lists 131 references to research literature relating to the ERIC system entered into the ERIC database between 1979 and 1984.

Brandhorst, T.
ERIC on Compact Disc (CD-ROM). A Case Study.
Paper presented at the CD-ROM Based Information Dissemination Conference, Reston, VA, 13-15 April 1986
ERIC ED 272 170
Describes the various reasons why the ERIC is interested in CD-ROM as a method of data dissemination and the reasons why SilverPlatter Information, Inc. was selected as a vendor.

Brandhorst, T.
Distributing the ERIC Database on SilverPlatter Compact Disc - A Brief Case History
Paper presented at the ONLINE '86 Conference, Chicago, IL, 5 November 1986
ERIC ED 277 394
Describes the process used to develop and field test the SilverPlatter CD-ROM.

Brandhorst, T.
'Distributing the ERIC database on compact disc: a case history of private sector involvement in the distribution of public sector data'
Government Publications Review, 14, 541-557 (1987)
ERIC EJ 361 296
Describes the partnership between the public and private sectors in developing and marketing the ERIC database on CD-ROM.

Brandhorst, T. (ed.)
A Bibliography of Publications about the Educational Resources Information Center (covering the period 1985-1988)
Rockville, MD: ERIC Processing and Reference Facility (1989)
ERIC ED 308 874
Lists 107 references to research literature relating to the ERIC system entered into the ERIC database between 1985 and 1988.

Brandhorst, T.
What are the Possibilities for Coordinating Education Information Databases? Revised Version
Rockville, MD: ERIC Processing and Reference Facility (1989)
ERIC ED 310 779

Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA, March 29, 1989
Suggests ways to broaden the scope of the ERIC system through coordination with other existing education databases.

Burchinal, L.G.
'ERIC and the need to know'
NEA Journal, 56, 65-72 (1967)
Describes the development and operation of the ERIC system.

Burchinal, L.G.
Evaluation of ERIC, June 1968
Washington, DC: Office of Education (1968)
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Burchinal, L.G.
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Washington, DC: Office of Education (1968)
ERIC ED 017 748
Describes plans for developing the ERIC system.

Burchinal, L.G.
'The Educational Resources Information Center: an emergent national system'
Journal of Educational Data Processing, 7: 2, 55-67 (1970)
ERIC EJ 022 888
Describes the development of the ERIC system and prospective planning.

Burchinal, L.G.
'The role of the federal government in information systems in education'
Journal of the American Society for Information Science, 21: 4, 274-278 (1970)
ERIC EJ 023 254
Delineates the role of the U.S. Office of Education in the development of the ERIC system.

Burchinal, L.G.
'ERIC: the national education retrieval system of the United States'
Educational Documentation and Information, 178: 1, 9-15 (1971)
ERIC EJ 049 256
Presents an account of the activities of the ERIC system from its beginning in 1966 to 1971.

Burchinal, L.G.
'Microforms and education'
Journal of Micrographics, 4: 2, 62-68 (1971)
Discusses the importance of microforms in the development of the ERIC system.

Burchinal, L.G.
'ERIC: the international educational information system'
In: Paisley, W.J. and Butler, M., *Knowledge Utilization Systems in Education*
Beverly Hills, CA: Sage Publications, 43-64 (1983)
Describes the development of the ERIC system from its conception in 1959 through to the early 1980s, and its usage in the United States and in foreign countries.

Chesley, R.E.
Dissemination of Educational Information through the Educational Resources Information Center (ERIC)
Washington, DC: Educational Resources Information Center (1979)
ERIC ED 171 285
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of the ERIC system's educational information.

Chesley, R.E.
'The Educational Resources Information Center'
Exceptional Children, 46: 3, 194-199 (1979)
ERIC EJ 216 167
Describes the processes used to collect, store and disseminate information in the ERIC system.

Clark, W.B.
MICROsearch - A Project to Extend the ERIC Database to Microcomputers
In: Proceedings of the Annual Meeting of the American Society for Information Science, 45th, Columbus, OH, 17-21 October 1982
ERIC ED 258 594
Describes the project at the ERIC Clearinghouse on Information Resources to develop and field test ERIC MICROsearch.

Clay, C.
'ERIC: how it has improved'
Phi Delta Kappan, 64: 3, 198-200 (1982)
ERIC EJ 271 200
Discusses the implications of the expansion of the ERIC system since its inception in 1966.

Clay, C. and Davis, J.E.
National Education Practice File. Final Report. Evaluation Report.
Redwood City, CA: San Mateo County Office of Education (1984)
ERIC ED 250 015
Describes a project undertaken between 1982 and 1984 by the San Mateo Educational Resources Center (SMERC), the Social Science Education Consortium (SSEC) and the ERIC Processing and Reference Facility to design the National Education Practice File, which was intended to identify what types of materials are valued by practitioners, locate information on the materials in the ERIC system, and develop a separate computer-based file of practitioner-oriented materials.

Congress of the United States, House Committee on Education and Labor
Oversight Hearing on National Institute of Education. Hearing before the Subcommittee on Select Education of the Committee on Education and Labor, House of Representatives, Ninety-Seventh Congress, First Session
Washington, DC: Congress of the United States, House Committee on Education and Labor (1981)
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Includes testimony, prepared statements, letters and reports presented during and after hearings held on 18 June 1981 on proposed reduction in the budget of the National Institute of Education (NIE).

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Oversight Hearing on OERI (The ERIC System). Hearing before the Subcommittee on Select Education of the Committee on Education and Labor, House of Representatives, One Hundredth Congress, First Session
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Contemporary Associates, Inc.
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Washington, DC: Contemporary Associates, Inc. (1980)
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Dershimer, R.A.
'The Educational Research (Resources) Information Center'
In: *The Federal Government and Educational R & D*
Lexington, MA: Lexington Books, 108-110 (1976)
Presents an overview of the ERIC system in relation to federal activities in educational research and development.

Dunman, S.
'ERIC: An essential online tool for educators'
Electronic Learning, 7: 4, 45-47 (1988)
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Describes the print and online products provided by the ERIC system.

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Office of Education Research Reports, 1956-65
Washington, DC: Educational Resources Information Center (1967)
Resumes ERIC ED 198 789; Indexes ERIC ED 198 790
Presents a collection of research report abstracts covering projects sponsored by the Bureau of Research, United States Office of Education, primarily under the Cooperative Research Program.

Eller, J.L.
'The development and potentials of the ERIC Thesaurus for educators'
Journal of Educational Data Processing, 7: 2, 74-80 (1970)
ERIC EJ 023 227
Describes the early development of the *Thesaurus of ERIC Descriptors*.

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American Documentation, 19, 213-220 (1968)
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Ely, D.P. and Minor, B.B.
'Information: how to cope with the deluge'
Educational Broadcasting International, 12: 2, 87-89 (1979)
ERIC EJ 216 455
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Design of ERIC Usage Studies
Syracuse, NY: ERIC Clearinghouse on Information Resources (1978)
vol. I ERIC ED 167 197; vol. II ERIC ED 167 198
Presents a prospective model for the ERIC system described in terms of its usage at three levels: system operations; subscribers to the services provided; and the end-users of the services.

Fife, J.D.
'The goals, practices and problems of education information systems'
Prospects: Quarterly Review of Education, 7: 3, 423-434 (1977)
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'The ERIC thesaurus: an analysis'
Education Libraries Bulletin, 21: 3, 14-30 (1978)
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Fry, B.M.
Evaluation Study of ERIC Products and Services
Bloomington, IN: Indiana University (1972)
Summary vol. ERIC ED 060 922; vol. I ERIC ED 060 923; vol. II ERIC ED 060 924; vol. III ERIC EJ 060 925; vol. IV ERIC ED 060 926
Reports a comprehensive study which examined the use made of ERIC products and services.

Fry, B.M. and Kiewitt, E.L.
'The Educational Resources Information Center: its legal basis, organization, distribution system, bibliographic controls'
Drexel Library Quarterly, 10: 1 and 10: 2, 63-78 (1974)
ERIC EJ 102 942
Describes the components of the ERIC system and evaluation studies undertaken since its conception in 1959 and the early 1970s.

Goldwyn, A.J. et al.
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Cleveland, OH: Western Reserve University (1965)
ERIC ED 003 777
Reports the findings of a feasibility study for the ERIC system.

Goldwyn, A.J. et al.
The Preparation of a Thesaurus of Educational Terms, Final Report
Cleveland, OH: Western Reserve University (1966)
ERIC ED 010 239
Reports the early development of the *Thesaurus of ERIC Descriptors*.

Government Executive
'Big fiche story: ERIC catches users' fancy'
Government Executive, 4: 5, 19 (1972)
Summarises the achievements of the ERIC system.

Greenwood, P.W. and Weiler, D.M.
Alternative Models of the ERIC Clearinghouse Network
Santa Monica, CA: Rand Corporation (1972)
ERIC ED 058 508
Describes six alternative models for the ERIC system.

Guthrie, J.W. and Stoddard, T.
Redesigning ERIC: a modern information system for practicing educators
Washington, DC: United States Department of Education (1986)
ERIC ED 271 126
Examines barriers within the ERIC system preventing communication with practitioners. Proposes the development of a Professional Resources Information Network Computerised for Educators (PRINCE), tailored to meet the specific informational needs of practitioners.

Heinmiller, J.L.
ERIC as a Resource for Improving Education: How is it Doing?
Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY, 21 March 1982
ERIC ED 220 105
Discusses the function of the ERIC as a vehicle for information dissemination, and reports on a series of studies investigating its effectiveness.

Hoover, C. and Brandhorst, T.
Development and Current Status of the Educational Resources Information Center (ERIC). A Model Bibliographic Control System covering the Literature of Education in the United States

Washington, DC: National Institute of Education (1982)
Paper presented at the International Meeting on Educational Documentation: Present and Future, Florence, Italy, May 31-June 4, 1982.
ERIC ED 221 171
Provides a brief history of the ERIC system, as well as an overview of its management, technical operations, products and services, and plans.

Horn, S.K. and Clements, S.K.
'ERIC: the past, present, and future federal role in education dissemination'
Government Information Quarterly, 6: 2, 183-197 (1989)
ERIC EJ 393 974
Reviews the development of the ERIC system and describes changes being implemented in the system as a result of the recently concluded ERIC Redesign Study.

Howe, R.W.
Survey of Selected ERIC Users - 1986
Columbus, OH: Council of ERIC Directors (1986)
ERIC ED 277 565
Reports a study involving surveys of two user groups: 500 ERIC standing order customers; and 200 administrators and teachers.

Hull, C.C. and Wanger, J.
Educational Resources Information Center (ERIC) File Partition Study: Final Report
Santa Monica, CA: System Development Corporation (1972)
ERIC ED 067 520
Presents ideas for making the ERIC database more relevant to the needs of educators.

Jackson, W.J.
'ONTAP-ERIC: a critical view'
Online Review, 5: 4,335-338 (1981)
ERIC EJ 321 328
Examines ONTAP ERIC, designed by DIALOG Information Services, Inc. to provide online training for users of the ERIC database.

Journal of Educational Communication
'The National Institute of Education'
Journal of Educational Communication, 1: 2, 20-25 (1975)
ERIC EJ 137 973
Reports an interview with John B. Chaffee, Director of the NIE, discussing NIE's dissemination of information through the ERIC system.

Journal of Educational Data Processing
'All about ERIC'
Journal of Educational Data Processing, 7: 2 (1970)
Issue devoted to coverage of the ERIC system.

Katter, R.V. and Hull, C.C.
Survey of Education Information Service Sites. Study of Information Requirements in Education
Santa Monica, CA: System Development Corporation (1976)
ERIC ED 135 410
Discusses the role of the ERIC in linkage processes.

Kent, A.
The Library of Tomorrow - Today, an Information Service of Educational Research Materials
Cleveland, OH: Western Reserve University (1962)
ERIC ED 003 251
Reports the first conceptual description of prospective ERIC services.

Kent, A.
Identification of Sources of Educational Research Materials
Cleveland, OH: Western Reserve University (1963)
ERIC ED 003 275
Reports a study identifying sources of documents for the ERIC.

Klausmeier, J.
'ERIC MICROsearch: searching ERIC on a microcomputer'
Library Software Review, 4: 2, 63-66 (1985a)
ERIC EJ 321 299
Describes a microcomputer-based search system providing access to part of the ERIC database.

Klausmeier, J.
'MICROsearch: the many uses of a downloaded database'
Microcomputers for Information Management, 2: 1, 25-32 (1985b)
ERIC EJ 318 732
Describes a microcomputer-based search system providing access to part of the ERIC database.

Knapp, S.D. and Zych, M.L.
'The ERIC data base and the literature of library and information science'
RQ, 16: 3, 209-212 (1977)
ERIC EJ 162 646
Reports the results of a study examining the scope of the ERIC database.

Malrieu, D.
'The ERIC database: evaluation of its use and a discussion of the system model'
Bulletin de Recherches sur l'Information en Sciences Humaines, Economiques et Sociales, 3, 53-62 (1983)
ERIC ED 258 601
Analyses both the extent of use of the ERIC database by the educational community in the United States, and the processes used in the ERIC system.

Markey, K.
Online Searching of ERIC: Suggestions for Improvement from the Special Project
Syracuse, NY: ERIC Clearinghouse on Information Resources (1979)
ERIC ED 180 475
Presents recommendations for improving online retrieval from the ERIC database derived from the findings of a series of studies.

Marron, H.
'Management of a decentralized information system'
Journal of Educational Data Processing, 7: 2, 68-73 (1970)
ERIC EJ 022 286
Discusses how management control is exercised over ERIC with emphasis on problems of communication, program planning and budgeting, and evaluation of performance.

Marron, H.
'Information network development: cost data for the operation of a decentralized network, Educational Resources Information Center'
Information Storage and Retrieval, 6, 221-227 (1970)
Analyses cost data for the operation of the ERIC system in regard to input, output, and administration.

Marron, H.
'The Educational Resources Information Center: or how educators learned about microfiche'
Journal of Micrographics, 4: 2, 69-71 (1971)
Describes the impact of the ERIC system on educators during its first year of operation.

Marron, H. and Burchinal, L.G.
'ERIC - a novel concept in information management'
In American Documentation Institute, 4th Annual Meeting, New York, 22-27 October, 1967, 268-272
Describes the major features and operating controls of the ERIC program.

Mason, W.S.
ERIC as a Dissemination Agent: A Social System Perspective
Washington, DC: Office of Educational Research and Improvement (1987)
ERIC ED 287 480
Examines the conceptual and theoretical issues arising from the planned redesign of the ERIC system and its potential new roles in dissemination of educational information.

Mathies, L.
'The Educational Resources Information Center: an agent of change'
Journal of Educational Data Processing, 7: 2, 123-129 (1970)
ERIC EJ 022 893
Describes the products of the ERIC system and the agency-of-change character of ERIC in its role of information control, analysis and dissemination.

Mathies, L. and Watson, P.G.
Computer Based Reference Service
Chicago, IL: American Library Association (1973)
Describes ERIC as a model information system.

McDonald, D. et al.
Cost and Usage Study of the Educational Resources Information Center (ERIC) System. Final Report
Rockville, MD: King Research, Inc. (1981)
ERIC ED 208 902
Reports a study of the cost of operating the ERIC system based upon surveys of various sources.

McLaughlin, P.W.
'New access points to ERIC: CD-ROM versions'
Education Libraries, 12: 3, 73-76 (1987)
ERIC EJ 361 401
Describes and compares three versions of the ERIC database available on optical data disks: DIALOG OnDisc ERIC; OCLC Search CD450; and SilverPlatter ERIC.

Mersel, J.
Information Transfer in Educational Research
Sherman Oaks, CA: Informatics, Inc. (1966)
ERIC ED 010 128
Reports a study conducted to provide guidance in the development of the ERIC system.

Norton, L.
'An introduction to the Educational Resources Information Center (ERIC)'
Current Studies in Librarianship, 4: 1-2, 36-42 (1980)
ERIC EJ 258 251
Describes the structure and functions of the ERIC system.

Paisley, W.
'Improving a field-based "ERIC-like" information system'
Journal of the American Society for Information Science, 22: 6, 399-408 (1971)
ERIC EJ 049 246
Discusses ERIC as an example of a field-oriented information system. Makes suggestions for improving its services to users.

Reese, J.
'A comparison and evaluation of three CD-ROM products'

Optical Information Systems, 8: 3, 123-126 (1988)
ERIC EJ 373 753
Compares and evaluates three CD-ROM products for the ERIC system: DIALOG OnDisc; OCLC's Search CD450; and SilverPlatter.

Reese, J. and Steffey, R.
'ERIC on CD-ROM: a comparison of DIALOG OnDisc, OCLC's Search CD450 and SilverPlatter'
Online, 11: 5, 42-54 (1987)
ERIC EJ 357 110
Compares the three CD-ROM versions of the ERIC database.

Sellen, M. and Tauber, R.
'Selection criteria for ERIC: a survey of Clearinghouse acquisition coordinators'
Behavioral and Social Sciences Librarian, 3: 4, 25-31 (1984)
ERIC EJ 315 649
Reports a survey of ERIC Clearinghouses to compare criteria used to select unsolicited manuscripts submitted for entry into the Resources in Education file and journal articles.

Sherman, C.N. et al.
An Investigation, Analysis, and Evaluation of Activities Connected with the Operation of Educational Information Service Centers. Final Report.
Falls Church, VA: System Development Corporation (1969)
ERIC ED 027 929
Discusses the operations of local ERIC reference and retrieval services.

Slawsky, D.A. and Brandhorst, T. (eds.)
A Bibliography of Publications about the Educational Resources Information Center
Bethesda, MD: ERIC Processing and Reference Facility (1978)
ERIC ED 169 955
Lists 269 references to research relating to the ERIC system published before 1978.

Stonehill, R.M.
How ERIC can better serve the Consumer: Prospects for Program Improvement
Washington, DC: Educational Resources Information Center (1989)
Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA, March 29-April 1, 1989
ERIC ED 310 876
Discusses proposed improvements to ERIC's acquisition, synthesis, and dissemination activities.

Stonehill, R.M. and Brandhorst, T.
'The three phases of ERIC'
Educational Researcher, in press (1992)
Describes the ERIC system and its operating principles, discusses ways in which ERIC has evolved, and proposes a number of new system improvement initiatives.

Summit, R.K.
ERIC Online Retrieval System. Use of the DIALOG Online Information Retrieval System with ERIC Research in Education Files. Final Report.
Palo Alto, CA: Lockheed Research Laboratory (1970)
ERIC ED 040 592
Describes a study which tested the utility of the Lockheed DIALOG system for retrieving material from the ERIC files.

Tauber, M.F. and Lilley, O.L.
Feasibility Study Regarding the Establishment of an Educational Media Research Information Service
New York, NY: Columbia University, School of Library Service (1960)
ERIC ED 003 144

Describes a feasibility study preceding the early development of the ERIC system.

Tauber, R.T.
'The credibility of ERIC's RIE selection process'
Research Intelligence, 18, 5-6 (1985)
ERIC EJ 321 329
Reports a survey of ERIC Clearinghouses on procedures used to evaluate unsolicited manuscripts submitted for entry into the Resources in Education file.

Tauber, R.T.
'The credibility of ERIC's Resources in Education'
Journal of Teacher Education, 36: 3, 50-51 (1985)
ERIC EJ 320 462
Reports a survey of the ERIC Clearinghouses concerning the procedures for screening unsolicited manuscripts for inclusion in Resources in Education.

Tauber, R.T.
'ERIC: its introduction and usefulness'
Journal of Education for Teaching, 11: 3, 213-227 (1985)
ERIC EJ 327 367
Reports a survey of the use made by British teachers and teacher trainees of the ERIC database.

Thompson, C.L.
Dissemination at the National Institute of Education: Contending Ideas about Research, Practice, and the Federal Role. A Study of Dissemination Efforts Supporting School Improvement. People, Policies, and Practices: Examining the Chain of School Improvement, Volume VI
Andover, MA: Network of Innovative Schools, Inc. (1982)
ERIC ED 240 718
Describes the history of dissemination at the National Institute of Education in the form of six programs: the ERIC; the State Dissemination Capacity Building Program; Urban Sites/Documentation and Technical Assistance Program; Teachers' Centers Exchange; Research and Development Utilization Program; and Research and Development Exchange.

Trester, D.J.
ERIC - The First 15 Years. A History of the Educational Resources Information Center
Washington, DC: Educational Resources Information Center (1979)
ERIC ED 195 289
Provides an account of the background and origin of the ERIC system, and traces the development of the system from its initial planning in 1962 until mid-1979.

Wanger, J. and Henderson, M.A.
Evaluation Study of NCEC Information Analysis Products. Final Report
Falls Church, VA: System Development Corporation (1972)
Vol. I, Description of Study Methodology and Findings ERIC ED 064 527; Vol. II, Individual Document Evaluation Profiles ERIC ED 064 528
Reports an evaluation of ERIC Clearinghouse products.

Wilson, R.
'Plan to alter education-research network draws mixed reviews; lawmakers seek further study'
Chronicle of Higher Education, 33: 32, 28 (1987)
ERIC EJ 352 683
Reports the effects upon members of Congress of the plan to restructure the ERIC system.

Contacts:
*Brandhorst, T.
personal communication (1991)

*Taheri, B.

personal communication (1990)

*Ted Brandhorst is the Director of the ERIC Processing and Reference Facility; and *Belinda Taheri is the Senior Information Specialist at ACCESS ERIC.

12
UNIVERSITY OF LEEDS

Agency:
University of Leeds, The Brotherton Library

Address:
Leeds LS2 9JT, England

Phone:
0532 335517

Foundation Date:
1954

Governance and Funding:
The British Education Index (BEI) and the British Education Theses Index (BETI) are managed by a committee within the University of Leeds, which is supported by the Librarians of Institutes and Schools of Education (LISE).

The BEI and the BETI are funded by revenues from subscriptions and sales of products.

Mission and Program:
The mission of the BEI and the BETI is to provide information of lasting value about the contents of educational periodical and thesis literature, thereby alerting service users to the existence of potentially useful reading matter.

The BEI and the BETI are independent programs sharing some resources and facilities.

PROGRAM ORGANISATION
Database Titles:
British Education Index (BEI); British Education Theses Index (BETI)

Type:
Bibliographic records contain indexes.

Language:
English

Structure:
The BEI and the BETI database consists of three subfiles.

(i) British Library BEI records (1976-1985): Contains records in PRECIS on articles published in education-related journals.

(ii) University of Leeds BEI records (1986 onwards): Contains records using descriptors representing early, developing and final *British Education Thesaurus* terms on articles published in 290 education-related, British and English language European journals.

(iii) BETI: Contains records using terms from the *British Education Theses Index Thesaurus* (1950-1982), and descriptors from the *British Education Thesaurus* (1982 onwards) on theses accepted for higher degrees in the United Kingdom and the Republic of Ireland.

Scope:
all aspects of educational research

Service Established:

1976

Service Provisions:
The BEI and the BETI database is provided by online application through an information retrieval service by a host organisation, by printed journal application, and by micrographic application.

DEVELOPMENT
Origin:
The BEI and the BETI were first published by the Librarians of the Institutes and Schools of Education (LISE) in 1954 for private circulation among Institute of Education Libraries. The BEI was subsequently published by the Library Association, although it continued to be compiled by LISE on a voluntary basis. Publication of the BEI was taken over by the British National Bibliography in 1972, and became the responsibility of a full-time editor of the British Library Bibliographic Services Division (BLBSD). Because of funding difficulties faced by the BLBSD, the BEI was transferred to the University of Leeds in 1986.

Trialling and Evaluation Activities:
Information on trials of the BEI and the BETI is unavailable.

Vickers and Howarth (1979) reported a survey of BEI subscribers in 1978 concerning the use of PRECIS as the controlled vocabulary for the BEI. The findings identified that the use of PRECIS impeded searching.

Sheffield (1990a) reported a survey of 950 BEI subscribers in August 1989, yielding 136 responses, on the coverage of the BEI, currency and frequency of the BEI, updating of the online file provided by DIALOG Information Services, Inc., the provision of a CD-ROM version, and indexing practices. The respondents suggested six improvements: documentation about indexing, cataloguing, and online assistance; greater frequency of printed issues; more frequent updating of online files; improved currency of material in the BEI; the inclusion of abstracts in BEI records; and the production of a CD-ROM version of the BEI, BETI and the *British Education Thesaurus*.

Resources:
The BEI is housed in The Brotherton Library at the University of Leeds, and staffed by one full-time information professional (editor), one half-time technician (indexer), one full-time clerical (secretary), and some voluntary assistance. The BEI uses the University of Leeds Computing Services' Amdahl mainframe computer. The BETI is housed at the University of Southampton, uses staff at Southampton and Leeds, and computing facilities of the University of Southampton.

Training:
The BEI conducts training sessions for users involving demonstrations of the online file. Training materials, a 10-page guide titled *British Education Index (BEI): What it is and how to use it*, and a 12-page user's guide titled *British Education Index: DIALOG File 121, User Guide*, are used during these sessions.

Prospective Products and Services:
The BEI is to include short abstracts in records, initially for a set of core journals. Provision is being made for inclusion of monographic reports and conference literature in the fields of training, professional and continuing education.

The BEI intends to produce a CD-ROM version of the BEI and the BETI database in 1993.

INPUT
Sources:
The BEI collects successive copies of journal series from publishers and distributors.

The BETI collects information on education-related theses from institutions of higher education in the United Kingdom and the Republic of Ireland.

Selection Policy:
The BEI information professional identifies articles of permanent educational interest published in a selected set of journals. Significant new or omitted journals can be added to the set. Editorials, news items and reviews are not usually indexed.

The BETI selects theses accepted for higher degrees.

Entry Processes:
Information professionals at the BEI and the BETI catalogue and index articles with descriptors from the *British Education Thesaurus* onto data entry sheets. The data are entered into the Amdahl computer and processed either interactively or in batch mode. Various proof reading stages follow, before and after the data are sent to the University Printing Service by the computer's typesetter link. A magnetic tape of the BEI and the BETI subfiles are sent to DIALOG Information Services, Inc. on the basis of regular updates.

Controlled Terminology:
Between 1954 and 1975, the controlled terminology consisted of a system of precoordinate subject terms derived from the *Education Index*, published by the H.W. Wilson Company. This system was abandoned in favour of the Preserved Context Index System (PRECIS) in 1976 to meet the needs of establishing the BEI as an online database accessible through the British Library Automated Information Service (BLAISE). Because the PRECIS depended upon constructing strings of terms, it provided poor thesaural control. For this reason, a decision was made to abandon the PRECIS in 1985 in favour of developing a thesaurus adapted from the *Thesaurus of ERIC Descriptors*.

This project was promoted by two developments during 1986. In May 1986, the Leverhulme Trust granted the BEI 13,000 pounds sterling towards the project. In August 1986, a conference of representatives from the Educational Resources Information Center, Canadian Education Index, Australian Education Index and the BEI was held at the Office of Educational Research and Improvement, United States Department of Education with the intention of extending cooperation to develop a common controlled vocabulary and online services through a permanent committee, the InterEd Working Group. As a result, the first edition of the *British Education Thesaurus* was published in 1988, with a second edition scheduled for 1991.

A variety of rules determine the construction and organisation of the *British Education Thesaurus* . Descriptors, the main terms used in the controlled vocabulary, are constructed and formatted to cover subject content in both print and online versions, educational level in the online version, and age level in the online version according to specific rules. Descriptors are also categorised into two types: narrower terms and broader terms are used to indicate hierarchical relationships among descriptors so as to refine indexing and searching; and related terms are cross-references that are neither hierarchical nor equivalent but essential for informing users of alternative terms. In addition, 'used for' references are employed to solve problems of synonymy by directing searchers to preferred terms. Scope notes, brief statements indicating intended usage, appear with certain descriptors selected according to specific criteria. The *British Education Thesaurus* is arranged according to two different sequences of descriptors: the primary alphabetical display; and the rotated display.

HOLDINGS
Record Numbers:
In January 1990, the BEI subfiles contained 49,000 records, and the BETI subfile contained 10,000 records.

Updating:
The BEI subfile has been updated quarterly by approximately 1,100 records until 1991, when updating will occur four times annually.

The BETI subfile is updated annually by 600 records.

Coverage:

The BEI subfiles cover from 1976 to the present, and the BETI subfile covers from 1950 to the present.

Search Strategy:
The fields on DIALOG in File 121 are classified into two categories: as the basic index; and as additional indexes. The basic index includes all assigned descriptors and identifiers plus all meaningful individual words and character strings from the Abstract, Descriptor, Identifier, Named Person, Note, and Title fields. A particular field may be specified using a suffix code and searched by either of two ways: Identifiers (/ID) in the forms of a multiword identifier, as words within an identifier, and as a single-word identifier (/IF); Named Person (/NA); Note (/NT); and Title (/TI) by free text; whilst Descriptors (/DE) are searched in the forms of multiword descriptor, as words within a descriptor, and as a single-word descriptor (/DF) by terms selected from the *British Education Thesaurus*. The additional indexes provide access to all other fields, which are specified as prefix codes and searched by free text for Author (AU=), International Standard Book Number (BN=), Classification Number (CA=), Country of Publication (CP=), Corporate Source (CS=), Conference Title (CT=), Edition (ED=), Journal Name (JN=), Language (LA=), Named Person (NA=), Place of Publication, Name of Publisher (PU=), Publication Year (PY=), Subfile (SF=), and International Standard Serial Number (SN=).

Searching of the BEI and BETI subfiles is complicated by the differences in controlled vocabularies used in each of the three subfiles: BETI 1950-1985; BEI 1976-1985; and BEI post-1986 and BETI New Series.

Record Samples:
BEI record:

AN 00132522 SUBFILE: British Education Index (BEI)
TI Introducing computer-based learning
AU Laurillard Diana
JN Open Learning; Vol. 1, no. 1: Feb 86
PY PUBLICATION YEAR(S): 1986
PHYSICAL DESCRIPTION: p10-12
LA LANGUAGE: English CP COUNTRY OF PUBLICATION: England
NT NOTES: Adult Education
DE DESCRIPTORS: Industry and Education; Computer Assisted Learning; Teaching Methods

BETI record:

AN 00008551 SUBFILE: British Education Theses Index (BETI)
TI Children's use of context in reading
AU Potter F.N.
Thesis (Ph.D.) - Leicester, 1982
PY PUBLICATION YEAR(S): 1982
DE Reading - Research; Reading - Tests and Scales

OUTPUT
Print and Computer-based Products:
The BEI is accessible offline in print and online, and the BETI is available online.

The printed form of the BEI file, produced in four part issues annually as the journal, *British Education Index*, is published by the Leeds University Press.

Public online access to the BEI was first provided in 1976 by the British Library Automated Information Service (BLAISE), 2 Sheraton Street, London W1V 4BH, England. In 1986, public online access was transferred to DIALOG Information Services, Inc., represented in the United Kingdom by Learned Information/DIALOG, PO Box 188, Oxford OX1 5AY, England.

Publications and Publicising Aids:
The BEI produces the journal, *British Education Index*, the *British Education Thesaurus*, an 11-page information booklet titled *British Sources of Information on Education: A Brief Guide to British Education Index, British Education Thesaurus, British Education Theses Index*, a 10-page guide

titled *British Education Index (BEI): What it is and how to use it*, and a 12-page user's guide titled *British Education Index: DIALOG File 121, User Guide*.

Microforms and Source Documents:
References to records contained in the BETI subfile are available in microfiche from the LISE through the Education Library, University College of Swansea, Hendrefoilan, Gower Road, Swansea SA2 7NB, Wales. Microforms are not produced for the BEI, and source documents are not available for either the BEI or the BETI.

Access:
Leeds University Press markets the *British Education Thesaurus* for 40.00 pounds sterling to United Kingdom subscribers and 45.00 pounds sterling to foreign subscribers, the print version of BEI for an annual subscription of 64.00 pounds sterling to United Kingdom subscribers and 75.00 pounds sterling to foreign subscribers. Back issues of the BEI are available at reduced rates.

The LISE markets two microfiche collections for the BETI: *BETI Cumulation 4, 1950-1983* for 20 pounds sterling to subscribers to previous issues and 50.00 pounds sterling to new subscribers; and *BETI New Series Number 1 1983-1987* for 15.00 pounds sterling.

Clients pay a fee of $US 45.00 per hour plus 25 cents per unit to DIALOG Information Services, Inc. for online access to the BEI and the BETI on File 121.

Products and services are available without restrictions.

Client Groups:
The intended users of the BEI are specified to be educational theorists, psychologists, planners and administrators, students in higher education, and teachers.

The BEI and the BETI database is used widely throughout the United Kingdom. A user directory is not maintained.

The BEI and the BETI database can be accessed in the U.S.A., Canada and Australia through gateway services offered by DIALOG Information Services, Inc.

REFERENCES
Bibliography:
Andrews, J.S.
'Ten years of indexing: the British Education Index (1954-63)'
Library Association Record, 66: 5, 203-206 (1964)
Describes the development of the BEI during the period between 1954 and 1963.

Hall, A.W.
'British Education Index: the user's problems'
Education Libraries Bulletin, 25: 1, 19-23 (1982)
Reports a study to identify references for particular topics in BEI. Found that the use of PRECIS impeded the ease of searching.

Hall, A.W.
'British Education Index and PRECIS: a rejoinder to Dai Hounsell'
Education Libraries Bulletin, 26: 1, 61-63 (1983)
Reports further evidence to support the argument that PRECIS is inefficient in permitting searching.

Hiley, P.
'British Education Index: centre of teachers' information'
School Librarian, 37: 2, 43, 51 (1989)
Describes ways BEI can serve teachers' needs.

Hounsell, D.
'Relations between users and sources of information'
Education Libraries Bulletin, 25: 3, 30-33 (1982)
Defends the processes used to compile BEI from the criticism levelled by A.W. Hall.

Johnston, J.R.V., Marder, J.V. and Sheffield, P.W.
'Educational research and educational practice: bridging the gap'
Journal of Education for Teaching, 16: 1, 83-90 (1990)
ERIC EJ 415 849
Describes the aims of the BEI, its place as a resource for teacher education, and the extent to which criticisms have been met.

Marder, J.V.
'The development of the British Education Thesaurus: a personal account'
Education Libraries Journal, 32: 1, 2-8 (1989)
Describes the methods of constructing the British Education Thesaurus, its scope, size and rationale for its development.

Shaw, C.M.
'The British Education Index: current practice and future possibilities'
Education Libraries Bulletin, 17: 3, 1-10 (1974)
Describes the processes used during the period the British Library Bibliographic Services Division produced BEI.

Sheffield, P.W.
'Encouraging people to find out faster: the British Education Index'
Learning Resources Journal, 5: 3, 58-61 (1989a)

Sheffield, P.W.
'BEI and BET: acronyms to information on education'
Management in Education, 3: 3, 17-19 (1989b)

Sheffield, P.W.
'The British Education Index 1989 user survey: a report of results and consideration of ways of meeting user needs'
Education Libraries Journal, 33: 1, 1-13 (1990a)
Reports the findings of a survey of BEI subscribers during 1989.

Sheffield, P.W.
'Access to information: a U.K. perspective'
Higher Education, 19: 1, 101-106 (1990b)
ERIC EJ 405 523
Describes current developments relating to the British Education Index (BEI).

Vickers, R.P.
'New indexing practices in British Education Index'
Education Libraries Bulletin, 23: 1, 34-36 (1980)
Describes modifications made to the controlled terminology of PRECIS to meet BEI users' criticisms.

Vickers, R.P. and Howarth, D.A.
'The British Education Index: present and future'
Education Libraries Bulletin, 22: 3, 1-8 (1979)
Describes improvements resulting from establishing BEI as an online database.

Contact:
*Sheffield, P.W.
personal communication (1991)

*Philip Sheffield is the Editor of the British Education Index.

APPENDIX

AGENCIES PROVIDING DATABASES ON CURRICULUM PRODUCTS

Introduction

This appendix lists agencies in Canada, the United Kingdom and the United States of America identified as maintaining databases on curriculum products. These agencies were surveyed during the project.

Entries are arranged alphabetically by country. Each entry provides as many as seven items of information:

(i) Agency: The name of the agency.
(ii) Address: The address of the agency.
(iii) Database: The name of the databases maintained by the agency.
(iv) Scope: Principal areas of interest or subject emphasis.
(v) Structure: Describes the operational structure and territory served.
(vi) Online Host: The name of the agency providing the online service.
(vii) Optical Publishing Host: The name of the agency providing optical publishing service.

Main Entry

1. Canada

Agency: Council of Ministers of Education, Canada
Address: 252 Bloor Street West
Toronto
Ontario M5S 1V5
Canada
Databases: CMEC Data Base, PELAGIE
Scope: computer courseware, instructional materials
Structure: national agency serving Canada
Online Host: SDM Inc.

Agency: Micromedia Limited
Address: 20 Victoria Street
Toronto
Ontario M5C 2N8
Canada
Database: Canadian Education Index
Scope: educational research in Canada
Structure: private agency serving Canada
O. P. Host: Micromedia Limited

Agency: Ontario Ministry of Education
Address: Mowat Block, 24th Floor
Queen's Park
Toronto
Ontario M7A 1L2
Canada
Database: Ontario Education Resources Information System
Scope: Ontario educational research and Canadian instructional materials
Structure: provincial agency serving Ontario
Online Host: BRS Information Technologies
O. P. Host: Micromedia Limited

Agency: Quebec Ministry of Education
Address: Centre Administratif G
1035 rue de la Chevrotiere, 12e etage
Quebec
Quebec G1R 5A5
Canada
Database: EDUQ
Scope: educational research in Quebec
Structure: provincial agency serving Quebec
Online Host: SDM Inc.

Agency: Saskatchewan Education
Address: 2220 College Avenue
Regina
Saskatchewan S4P 3V7
Canada
Database: database on computer courseware
Scope: computer courseware
Structure: provincial agency serving Saskatchewan

Agency: University of Alberta
Computing Systems
Information Systems Section
Address: 352 General Services Building
Edmonton
Alberta TG 2H1
Canada
Database: Educational Administrative Resource Centre, Microcomputer Software Library
Scope: educational research, computer courseware
Structure: provincial agency serving Alberta

Agency: York University
Faculty of Education
Address: 4700 Keele Street
North York
Ontario M3J 1P3
Canada
Database: database on computer courseware
Scope: computer courseware
Structure: provincial agency serving Ontario

2. United Kingdom

Agency: Advisory Unit Microtechnology in Education
Hertfordshire County Council
Address: Endymion Road
Hatfield
Hertfordshire AL10 8AU
England
Database: database on computer courseware
Scope: computer courseware
Structure: independent agency serving United Kingdom
Online Host: British Telecommunications PLC Prestel Education

Agency: MARIS On-Line Limited
Address: Bank House
1 St Mary's Street

	Ely Cambridgeshire CB7 4ER England
Database:	MARIS ON-LINE
Scope:	instructional materials and educational research in training
Structure:	national agency serving United Kingdom
Online Host:	British Telecommuncations PLC Packet Switching Service
O. P. Host:	

Agency:	National Council for Educational Technology
Address:	Sir William Lyons Road, Science Park University of Warwick Coventry CV4 7EZ England
Database:	databases on computer courseware
Scope:	computer courseware
Structure:	national agency serving United Kingdom
Online Host:	British Telecommuncations PLC Prestel Education

Agency:	National Foundation for Educational Research in England and Wales
Address:	The Mere Upton Park Slough Berkshire SL1 2DQ England
Database:	Education Management Information Exchange
Scope:	educational research
Structure:	national agency serving England and Wales

Agency:	NERIS Trust Maryland College
Address:	Leighton Street Woburn Milton Keynes MK17 9JD England
Database:	National Educational Resources Information Service
Scope:	instructional materials
Structure:	national agency serving United Kingdom
Online Host:	British Telecommuncations PLC Prestel Education
O. P. Host:	Educational Counselling and Credit Transfer Information Service

Agency:	Scottish Council for Educational Technology
Address:	Dowanhill 74 Victoria Crescent Road Glasgow 12 9JN Scotland
Database:	Special Educational Needs Database
Scope:	microcomputer courseware and hardware
Structure:	regional cooperative serving Scotland
Online Host:	British Telecommunications PLC Prestel Education
O. P. Host:	Educational Counselling and Credit Transfer Information Service

Agency:	University of Leeds Brotherton Library
Address:	Leeds LS2 9JT England
Database:	British Education Index
Scope:	educational research in U.K.

Structure: national agency serving U.K.
Online Host: DIALOG Information Services, Inc.

3. United States of America

Agency: Access Innovations Inc.
National Information Center for Educational Media
Address: PO Box 40130
Albuquerque
NM 87196
U.S.A.
Database: A-V Online, A-V Online Training Media
Scope: non-print instructional materials
Structure: independent agency serving U.S.A.
Online Host: DIALOG Information Services, Inc., Human Resource Information Network
O. P. Host: SilverPlatter Information, Inc.

Agency: American Educational Research Association
Address: 1230 17th Street N.W.
Washington
DC 20036
U.S.A.
Database: Educational Research Forum
Scope: educational research
Structure: independent agency serving U.S.A.
Online Host: CompuServe Information Service

Agency: American Forum for Global Education
National Clearinghouse on Development Education
Address: 45 John Street, Suite 1200
New York
NY 10038
U.S.A.
Databases: Annotated Material Resources, Organisational Profiles
Scope: educational materials and projects in international studies
Structure: independent agency serving U.S.A.
Online Host: Image Base

Agency: Colorado Department of Education
Address: 201 E. Colfax Avenue, Room 502
Denver
CO 80203
U.S.A.
Databases: Directory of Environmental Education Resources, School Model Programs
Scope: educational research and projects on environmental education and educational programs
Structure: state agency serving Colorado
Online Host: CARL Systems, Inc.

Agency: Council for Exceptional Children
Address: 1920 Association Drive
Reston
VA 22091
U.S.A.
Database: Exceptional Child Education Resources
Scope: educational research in special education
Structure: international agency serving U.S.A. and Canada
Online Host: BRS Information Technologies, DIALOG Information Services, Inc.

Agency: Custom Publishing Services
Address: 85 Beach Street
Westerly
RI 02891
U.S.A.
Database: Microcomputers in Education
Scope: educational research on computer courseware
Structure: independent agency
Online Host: NewsNet Inc.

Agency: Educational Products Information Exchange Institute
Address: PO Box 839
Water Mill
NY 11976
U.S.A.
Database: EPIE ON-LINE
Scope: instructional materials
Structure: independent agency supported by subscribing clients serving U.S.A.
Online Host: CompuServe Information Service

Agency: Florida Department of Education
Address: Capitol Building, Room PL116
Tallahassee
Florida 32301
U.S.A.
Database: Florida Diagnostic and Learning Resources System
Scope: instructional materials
Structure: state agency serving Florida

Agency: Georgia Department of Education
Address: 2052 Twin Towers East
Atlanta
Georgia 30334
U.S.A.
Database: Edunet
Scope: educational research, instructional materials
Structure: state agency serving Georgia

Agency: Hawaii State Department of Education
Office of Instructional Services
Address: PO Box 2360
Honolulu
Hawaii 96804
U.S.A.
Database: Hawaii Educational Dissemination Diffusion System
Scope: educational research
Structure: state agency serving Hawaii

Agency: Illinois State Board of Education
Address: 100 N. Front Street
Springfield
IL 62777
U.S.A.
Database: Illinois Resource and Dissemination Network
Scope: educational research
Structure: state agency serving Illinois

Agency: LINC Resources Inc.
Address: 4820 Indianola Avenue
Columbus
OH 43214
U.S.A.
Database: Special Ware, IBM Ware
Scope: instructional materials and educational research in special education
Structure: independent agency serving U.S.A.

Agency: Merrimack Education Center
Address: 101 Mill Road
Chelmsford
MA 01824
U.S.A.
Database: MEC Information Services
Scope: educational research in microcomputer applications and videodiscs
Structure: independent agency serving Massachusetts

Agency: Montgomery County Intermediate Unit
Address: 725 Caley Road
King of Prussia
PA 19406
U.S.A.
Database: Research and Information Services for Education
Scope: educational research
Structure: independent agency serving U.S.A.

Agency: National Association of State Directors of Special Education
Address: 2021 K Street N.W., Suite 215
Washington
DC 20006
U.S.A.
Database: Special Net
Scope: educational research in special education
Structure: independent agency serving U.S.A.
Online Host: GTE Education Services

Agency: National Center for Research in Vocational Education
University of California, Berkeley
Graduate School of Education
Address: 1995 University Avenue, Suite 375
Berkeley
CA 94704
U.S.A.
Databases: Vocational Education Curriculum Materials, Resources in Vocational Education
Scope: instructional materials and educational research in vocational and technical education
Structure: national agency serving U.S.A.
Online Host: BRS Information Technologies

Agency: National Clearinghouse for Bilingual Education
Address: 8737 Colesville Road, Suite 900
Silver Spring
MD 20910
U.S.A.
Databases: Bibliographic Abstracts of General Information, Curriculum Materials Review, MICRO
Scope: educational research, instructional materials and microcomputer courseware in

bilingual and minority language education
Structure: national agency serving U.S.A.

Agency: New Hampshire State Department of Education
Address: State Office Park South
101 Pleasant Street
Concord
NH 03301
U.S.A.
Database: EdLink
Scope: educational research
Structure: state agency serving New Hampshire

Agency: Northwest Regional Educational Laboratory
Address: 101 S.W. Main Avenue, Suite 500
Portland
OR 97204
U.S.A.
Database: Resources in Computer Education
Scope: computer courseware, videodiscs, CD-ROM products
Structure: regional cooperative serving Alaska, Idaho, Montana, Oregon, and Washington

Agency: Southeastern Regional Vision for Education
Address: School of Education
University of North Carolina
Greensboro
N C 27412
U.S.A.
Database: Project Software Evaluation Exchange and Dissemination
Scope: computer courseware
Structure: regional cooperative serving Alabama, Florida, Georgia, Mississippi, North Carolina and South Carolina

Agency: Texas Education Agency
Texas Education Computer Cooperative
Address: Education Service Center, Region 4
PO Box 863
Houston
TX 77001
U.S.A.
Database: Statewide Microcomputer Courseware Evaluation Network
Scope: computer courseware
Structure: state agency serving Texas

Agency: Treaty Oak Community College
Adult Basic Skills Technology Project
Address: 300 East Fourth Street
The Dalles
OR 97058
U.S.A.
Database: Adult Basic Skills Technology Project database
Scope: computer courseware in adult basic skills
Structure: state agency serving Oregon

Agency: United States Department of Education
Office of Educational Research and Improvement
Educational Resources Information Center
Address: 555 New Jersey Avenue, N.W.

Washington
DC 20208
U.S.A.

Database: Resources in Education, Current Index to Journals in Education
Scope: educational research
Structure: national agency serving U.S.A.
Online Host: BRS Information Technologies, DIALOG Information Services, Inc.
O. P. Host: SilverPlatter Information, Inc., DIALOG Information Services, Inc., OCLC, Inc.

Agency: United States Environmental Protection Agency
Instructional Resources Center
Address: 1200 Chambers Road, Room 310
Columbus
OH 43085
U.S.A.
Database: Instructional Resources Information System
Scope: instructional materials in environmental education
Structure: national agency serving U.S.A.
Online Host: CompuServe Inc.

Agency: University of South Florida
College of Education
Florida Center for Instructional Computing
Address: EDU 123-H
Tampa
FL 33620
U.S.A.
Database: MICRO
Scope: ccomputer courseware
Structure: state agency serving Florida

Agency: University of Tennessee, Knoxville
College of Education
Department of Technological and Adult Education
Project Information Needed for Occupational Education
Address: 438 Claxton Addition
Knoxville
TN 37996
U.S.A.
Database: Micro-INFOE
Scope: career education
Structure: state agency serving Tennessee

Agency: Utah State Office of Education
Address: 250 East Fifth South Street
Salt Lake City
UT 84111
U.S.A.
Database: Technology Assistance Center databases
Scope: microcomputer courseware
Structure: state agency serving Utah

Agency: Wisconsin Department of Public Instruction
Bureau of Instructional Media and Technology
Address: PO Box 7841
Madison
WI 53707
U.S.A.

Database:	Microcomputer Center/Library databases
Scope:	educational research, instructional materials, educational technology
Structure:	state agency serving Wisconsin
Agency:	Wyoming Department of Education
Address:	Hathaway Building 2300 Capitol Avenue Cheyenne WY 82002 U.S.A.
Database:	WyNET databases
Scope:	computer courseware and hardware, educational research
Structure:	state agency serving Wyoming

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Cropley, M.
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Curriculum Development in Australian Schools, 3, 32 (1987)

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The Australian Library Journal, 27: 17, 2943-285 (1978)

Dwyer, J.G.
'ASCIS (Australian Schools Catalogue Information Service)'
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'Evaluating the impact of the Curriculum Centre in Australia'
Studies in Educational Evaluation, 13: 3, 297-305 (1987)

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The Establishment of a National Curriculum Development Centre
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Audit and Evaluation of K-12 Aboriginal and Torres Strait Islander Studies Materials
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GLOSSARY

Document Delivery:
A service in which the user searches a database for information on a relevant publication and then orders a copy of the selected publication. The appropriate source document is then delivered by post.

Electronic Mail:
An application permitting the sending of messages by inputting them into a computer via a terminal, delivering them by a communications computer via electronic mailbox addresses or terminals equipped to answer incoming calls. Bulletin boards are electronic mail systems available to all users.

Magnetic Tape:
Magnetic tapes, consisting of a magnetic medium on a plastic substrate, are available in various forms. Reel-to-reel magnetic tapes, used in computer-based systems, are commonly of half-inch width. Information providers record databases on magnetic tapes and make them available for installation and use on clients' own facilities.

Micrographics:
In data processing, the condensing, storing and retrieving of graphic information on microforms. Micrographics employs two main types: roll microforms, such as reel microfilm, microfilm cartridges, and microfilm cassettes that contain microimages arranged sequentially; and flat microforms, such as microfiche, in which many microimages are arranged in a grid pattern on a sheet of film.

Micrographics began by providing a means for libraries to obtain rare works, but did not have wide application until the mid-1930s when Eastman Kodak developed specialised microfilm cameras. The rapid expansion of higher education during the 1960s led to the widespread use of micrographics. As a result a micropublishing industry developed to supply newly established academic institutions with basic library collections. The production of microforms was increased by the widespread application of computer-output microfilming (COM) introduced during the late 1950s, which led many libraries to transfer their card catalogues onto computer-output microfilm during the 1970s.

Online Information Retrieval:
A system that enables a searcher at a remote terminal to interactively interrogate databases held on a host computer.

Online information retrieval originated in the mid-1960s when the Lockheed Missiles and Space Company, now DIALOG Information Services, and the System Development Corporation, now ORBIT Search Service, developed large, limited-access online database systems. During 1972, public access online systems became available, and by the mid-1970s such systems were being offered by a number of organisations on a world-wide basis.

To interrogate a database the searcher uses a terminal, with printer attached, connected by a modem or acoustic coupler, to a telephone. The searcher can access the supplier's computer - the 'host' computer - either by dialling directly, if nearby, by dialling the local node of a data telecommunications network. On accessing a relevant database the searcher specifies search terms of keywords which describe the search topic. These are matched with the index to the records on the database and the system responds with the matches, or 'postings' found. By combining the search terms using Boolean Operators (And, Or, Not), the search can be narrowed or widened. The retrieved references can be output on the searcher's printer, or printed offline by the supplier and posted to the searcher. Various formats may be specified, and Selective Dissemination of Information (SDI) services are available with details of new relevant references, which are regularly sent to the searcher as the database is updated. Before undertaking online searches it is necessary to have some training in searching techniques and be familiar with some of the retrieval

languages used on the various systems. Searches are therefore usually undertaken for enquirers by trained intermediaries such as information scientists or librarians.

Optical Publishing:
Optical publishing applications encompass optical disks produced and read by means of laser technology. Optical disks can be classified according to their use as storage memory: read-only; write-once; or erasable memory. Read-only disks, which cannot be edited by users, include audio compact disk (CD), compact disk read-only memory (CD-ROM), compact disk interactive (CD-I) which stores text, audio and still visual data, digital video interactive (DV-I) which stores audio and motion video, and videodisks. Write-only disks, which allow users to record but not edit, include write-once read-many (WORM), direct read-after-write (DRAW), compact disk programmable read-only many (CD-PROM), data read-only memory (Data ROM), and optical read-only memory (ORAM). Erasable disks are still in the experimental stage.

Optical disks were first developed as audio compact disks by Philips and Sony in 1982. The success of compact disks in the musical recording industry prompted Philips and Sony to explore other possibilities, and in 1983 this venture offered its CD-ROM standards to prospective licensees. The first CD-ROMs were produced and marketed in 1985 by the licensees, Information Access Corporation, the Library Corporation, and Library Systems and Services.

Videotex:
A computer-based information system designed to forge a link between members of the general public and a centralised computer through a telecommunications link such as a telephone line, coaxial cable, optical fibre or broadcast signal. Videotex covers two separate technological developments: viewdata, in which a wired communication link, providing two-way communication, is established between the user and the computer through a telephone line; and teletext, in which one-way communication is provided through broadcast over television wavebands in conjunction with normal television programs.

Videotex systems in Europe, Canada and Japan employ variations of the technology first developed in 1970 by the inventor of viewdata, Sam Fedida, Manager of Computer Applications at the British Post Office. In 1979, the British Post Office introduced viewdata as the Prestel service, which provided the prototype for developments in continental Europe, Canada and Japan during the 1980s. In all videotex systems, a central mainframe computer, minicomputer or microcomputer is connected to an information provider terminal and user terminals which can be of three types: television sets with decoders; videotex terminals; or microcomputers with videotex decoding software. The access methods of videotex have been designed to ensure that no prior training is required. Most videotex systems employ hierarchical or tree-structured database designs in which menu selection is the primary means of retrieval. A user, guided by a series of menu choices, selects pages by means of a numeric keypad. Information on each page, which occupies the whole screen of the monitor, is displayed in blocks, known as 'frames', in a standard format. Pages are linked hierarchically, so that users are presented with one or more numbered choices on each page, which route them to subsequent pages. Although the general format of videotex displays appears as multicoloured sets of characters or patterns on the monitor, the British and most European systems use mosaic character sets in which the screen is divided into 24 row x 40 column spaces, the French and Japanese systems use dynamically redefinable character sets providing greater flexibility in graphic design, and the Canadian Telidon system uses a geometric system which can produce simple line drawings. Some American videotex systems, such as CompuServe, do not provide graphics or discrete pages and frames, but are organised in the same continuous textual formats as online information retrieval systems.

The introduction of videotex into Australia was first proposed by Telecom Australia in 1981, although this was rejected. Then, a number of private companies involved in promoting videotex technology formed the Australian Videotex Industry Association, which prompted Telecom Australia to submit a new proposal to the newly elected Labor government in 1983. This was accepted, and Telecom Australia introduced a public videotex system, Viatel, in February 1985. The Edutel database, designed by the Australian Caption Centre, for educational users of Viatel, was launched in August 1985.

INDEX

Aberdeen College of Education, 93
Abercorn School, 94
Aboriginal Education Advisory Group, 8
Aboriginal Education Curriculum Unit, 8
ACCESS ERIC, 100, 105, 119
Access Innovations, Inc., National Information Center for Educational Media (NICEM), 13, 14, 21-26
ACI Computer Services, 5
Adjunct ERIC Clearinghouse on Art Education, 101, 106
Adjunct ERIC Clearinghouse on Chapter 1, 102, 106
Adjunct ERIC Clearinghouse on Consumer Education, 101, 106
Adjunct Clearinghouse on Literacy Education for Limited English Proficient Adults, 101, 106
Adjunct ERIC Clearinghouse for United States-Japan Studies (National Clearinghouse for United States-Japan Studies), 101, 106
Agency for International Development, 108
Aids to Communication in Education (ACE) Centre, 93
Alberta Education, 34, 82
Albuquerque Training and Vocational Institute, 21
Algonquin College, 90
American Psychological Association, 29
American Library Association, 39
Apple Computer, Inc., 82
Ashcraig School, 93
Asian Studies Council, 9
Association for Science Education, 70
Athabasca University, 90
Attorney General's Department, 9
Australian Associated Press, 9
Australian Bicentennial Authority, 6
Australian Capital Territory Schools Authority, 6
Australian Council for Educational Research, 6, 9, 56, 57, 108, 135
Australian Curriculum Information Network (ACIN), 6
Australian Education Council (AEC), 6, 7, 8
Australian Institute of Criminology, 9
Australian Institute of Family Studies, 9
Australian Online Information Network (AUSINET), 5
Australian Schools Catalogue Information Service (ASCIS), 5-6, 7, 15
Australian Science Education Project (ASEP), 5
Australian Sports Commission, 9

Ballarat Community Education Centre, 8
BBC Education TV and Radio, 69
Bedfordshire Schools Library Service, 70
Beechwood School, 93
Bicentennial Australian Studies Schools Project, 6-7
Birmingham Open Learning Development Unit, 51, 53
British Columbia Ministry of Education, 34
British Library Automated Information Service (BLAISE), 135, 136
British Library Bibliographic Services Division (BLBSD), 134
British Telecom, Prestel Education Service, 52, 75, 77, 93, 96
Brock University, 89, 90
BRS Information Technologies, 13, 28, 29, 32, 33, 61, 64, 79, 85, 88, 89, 107, 114, 117, 119
Buckhaven High School, 93

Calderdale Libraries, 70
California State Department of Education, 82

Camosun College, 90
Canada Council, 56
Canadian Council for Research in Education, 56
Canadian Education Association, 56, 58
Canadian Exchange for Instructional Materials Analysis (CEIMA), 34
Cargenbridge Teachers' Resource Centre, 93
Carleton Board of Education, 90
Carleton University, 90
Carnegie Foundation, 36
Central ERIC, 100, 104, 105, 108, 109, 112
Central Regional Council School Library Service, 70
Centre for Innovation in Mathematics Teaching, 70
Centre for Research Education and Training in Energy, 70
Child Guidance Centre at Kirkwall, 93
Child Guidance Centre at Lerwick, 93
Chino School District, 38
Clearinghouse of Studies in Higher Education, 103
Columbia University, 36, 47, 48, 104
Commonwealth Department of Employment, Education and Training, 7
Commonwealth Schools Commission, 5, 6
CompuServe Information Service, 45, 46
Concordia University, 90
Consumers Union of the U.S., 36
Corporation for Public Broadcasting, 35
Council for Educational Technology, 68
Council for Exceptional Children (CEC), 13, 27-33
Council of Chief State School Officers (CCSSO), 36
Council of Ministers of Education, Canada, 57
Curriculum Corporation, 7-10, 11, 17
Curriculum Council for Wales (CCW), 69
Curriculum Development Centre (CDC), 5, 6, 7, 8

Dalhousie University, 90
Dawson Park School, 93
Department of Education and Science, 69, 70, 76
Department of Employment, 50
Department of Trade and Industry, 67, 68, 92
Derbyshire College of Higher Education, 70
Design and Technology Association, 70
Design Council, 70
Development and Research Office, (EPIE) Institute, 34
DIALOG Information Services, Inc., 13, 22, 23, 24, 25, 29, 32, 33, 107, 108, 114, 117, 119, 120
Dingwall Academy, 93
Donaldson's School for the Deaf, 93
Drummond School, 93
Dufferin-Peel Board of Education, 90
Dundee College of Education, 94

East Central Curriculum Coordination Center, 59
East York Board of Education, 90
Edenhall Hospital Spinal Injuries Unit, 93
Education News Service, 82
Educational Counselling and Credit Transfer Information Service (ECCTIS), 96
Educational Products Information Exchange (EPIE) Institute, 13, 14, 15, 34-49, 82
English and Media Centre, 70
ERIC Clearinghouse on Adult, Career, and Vocational Education, 101, 106
ERIC Clearinghouse on Counseling and Personnel Services, 101, 106
ERIC Clearinghouse on Educational Management, 101, 106

ERIC Clearinghouse on Elementary and Early Childhood Education, 101, 105, 106
ERIC Clearinghouse on Handicapped and Gifted Children, 28, 32, 101, 106
ERIC Clearinghouse on Higher Education, 101, 106
ERIC Clearinghouse on Information Resources, 101, 106, 117
ERIC Clearinghouse on Junior Colleges, 101, 106
ERIC Clearinghouse on Languages and Linguistics, 101, 106
ERIC Clearinghouse on Media and Technology, 105
ERIC Clearinghouse on Reading and Communication Skills, 101, 106
ERIC Clearinghouse on Rural Education and Small Schools, 101, 106
ERIC Clearinghouse on Science, Mathematics, and Environmental Education, 101, 106
ERIC Clearinghouse on Social Studies/Social Science Education, 101, 106
ERIC Clearinghouse on Teacher Education, 101, 106
ERIC Clearinghouse on Tests, Measurement, and Evaluation, 101-102, 106
ERIC Clearinghouse on Urban Education, 102, 106
ERIC Document Reproduction Service, 32, 100, 105, 109, 110, 117, 119
ERIC Online Users Group, 112
ERIC Processing and Reference Facility, 100, 105, 108, 109, 110, 112, 113, 117, 119, 120
ERIC Redesign Study, 105
Etobicoke Board of Education, 90
Executive Telecom System, Human Resource Information Network, 24, 25
Exxon Foundation, 36

Faichney Field Work Centre, 94
Fir Park School, 94
Footscray Institute of Technology, 10
Ford Foundation, 36
Fraser Valley College, 90
Froebel Institute, 70

Garrioch Centre, 93
GEM Project, 93
Glenburn School, 94
Glencryan School, 93
Graysmill School, 93
Greenwood Teachers' Centre, 93
GTE Education Services, 117
Guelph University, 90

Halton Board of Education, 90
Hamilton Board of Education, 90
Hamilton Child Guidance Centre, 94
Hampshire Record Office, 70
Hawick High School, 93
Hertfordshire Library Service for Schools, 70
High/Scope Educational Research Foundation, 82
Historical Association, 70
HM Inspector of Schools Office, 94
Holland College, 90
House of Representatives, Committee on Education and Labor, 105
Humanities Resource Centre, 70
Huron County Board of Education, 90
H.W. Wilson Company, 135

IBA Television, 69
Institute for Scientific Information, 29, 33, 119, 120
Institute of Education Libraries, 134
Institute of Educational Development, 36
International Association of Universities, 107

International Society for Technology in Education, 82

John Abbott College, 90
Joint Academic Network (JANET), 75
Jordan Hill College of Education, 94

Kaimes School, 93
Kentucky Educational Television, 35
King Research, Inc., 105

Lakehead University, 89, 90
Language Development Project (LDP), 5
Laurentian University, 89, 90
Lawmuir School, 94
Learned Information/DIALOG, 134, 135, 136, 137
Leeds and Grenville Board of Education, 90
Leeds University Press, 137
Legislative Library, 89
Lennox and Addington Board of Education, 90
Lethbridge Community College, 90
Leverhulme Trust, 135
Librarians of Institutes and Schools of Education (LISE), 133, 134, 137
Library Association, 134
Library of Congress, 22
LINC Resources, Inc., 82
Lincoln County Board of Education, 90
Lockheed Research Laboratory, 105
London Board of Education, 90
Los Angeles Unified School District, 36
Lothian Special Interest Group, 92
Loughborough University of Technology, 70
Lynbank Hospital School, 93

Macdonal College, 90
Manitoba Education, 34
MARIS On-Line Limited, 13, 14, 15, 50-54
Marnock School, 93
Mary Russell School, 94
McGill University, 90
McMaster University, 90
Memorial University, 90
Metropolitan Separate Board of Education, 90
Metropolitan Toronto Board of Education, 90
Microcomputer Software and Information for Teachers (MicroSIFT) Project, 13, 79
Microelectronics Education Support Unit, 93
Micromedia Limited, 13, 14, 55-58, 88, 89, 108, 135
Midwest Curriculum Coordination Center, 59
Midwestern Projects Office, (EPIE) Institute, 34
Minnesota Department of Education, 82
Minnesota Educational Computing Consortium, 39, 82
Mistikwa Community College, 90
Moray House College of Education, 93

National Aboriginal Education Committee, 8
National Association for the Teaching of English, 70
National Board of Employment, Education and Training, 7
National Catholic Education Commission, 7
National Center for Research in Vocational Education (NCRVE), 14, 59-66

National Council for Educational Technology, 70
National Council of Independent Schools Associations, 7
National Curriculum, 68-69, 70, 76
National Curriculum Council (NCC), 69, 70, 76
National Diffusion Network (NDN), 102, 104
National Educational Resources Information Service (NERIS), 14, 93
National Governors' Association Task Force on Education, 107
National Institute of Education, 36, 47, 48, 104, 105
National Library of Australia, 5, 9
National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE), 60, 61
National Open Learning Library, Birmingham Open Learning Development Unit (BOLDU),
National Software Coordination Unit (NSCU), 6
NERIS Northern Ireland, 67
NERIS Scotland, 67
NERIS Trust, 67-77
NERIS Wales, 67
New American Schools Corporation, 107
New Zealand Department of Education, 7
Newman College, 70
Niagara South Board of Education, 90
Nicolson Institute, 94
Nipissing University College, 89
Northeast Curriculum Coordination Center, 59
Northeastern Projects Office, (EPIE) Institute, 34
Northern Alberta Institute of Technology, 90
Northern College of Education Library Resource Centre, 70
Northern Ireland Curriculum Council (NICC), 69
Northumberland and Newcastle Board of Education, 90
Northwest Curriculum Coordination Center, 59
Northwest Regional Educational Laboratory (NWREL), 13, 14, 39, 48, 78-83
North York Board of Education, 90
Nottingham Polytechnic, 70

Ohio State University, 60
Oklahoma State University, 82
Online Computer Library Center (OCLC), 114, 118, 120
Ontario Institute for Studies in Education (OISE), 85, 86, 89, 90
Ontario Ministry of Colleges and Universities, 86
Ontario Ministry of Education, Eastern Ontario Regional Office, 89
Ontario Ministry of Education, Midnorthern Ontario Regional Office, 89
Ontario Ministry of Education, Northeastern Ontario Regional Office, 89
Ontario Ministry of Education, Northwestern Ontario Regional Office, 89
Ontario Ministry of Education, Ontario Education Resources Information System (ONTERIS), 14, 58, 84-90
Ontario Ministry of Education, Western Ontario Regional Office, 89
Open University, 67, 75
Oryx Press, 100, 105, 117, 119
Ottawa Board of Education, 90
Ottawa Roman Catholic Board of Education, 90

Pacific Region Educational Laboratory (PREL), 78
Panel on Educational Terminology, 112
Peel Board of Education, 90
Peterborough County Board of Education, 90
Pitman Learning, Inc., 39
Plexus Publishing, Inc., 24, 25
Publications Ontario, 89

Queen's University, 89, 90

Rand Corporation, 104
Red River Community College, 90
Richard Lounsbury Foundation, 36
Rosslyn School, 93
Royal Melbourne Institute of Technology, 10
Royal School for the Blind, 93
Royal Society of Chemistry, 70
Ryerson Polytechnical Institute, 90

Saltcoats Child Guidance Centre, 93
Scarborough Board of Education, 90
School Examination and Assessment Council (SEAC), 69
Scottish Consultative Council on the Curriculum (SCCC), 69
Scottish Council for Educational Technology (SCET), 13, 51, 91-99
Scottish Education Department, 92, 94
Scottish Microelectronics Development Programme (SMDP), 92
SENIEP Advisory Committee, 93, 94
Seymour Lodge Teachers' Centre, 94
Sherbrooke University, 90
SilverPlatter Information, Inc., 23, 24, 25, 114, 118, 120
Simcoe County Board of Education, 90
Simon Fraser University, 90
Social Education Materials Project (SEMP), 5
Software Evaluations Office, (EPIE) Institute, 34
South Australia Department of Education, 5, 6, 8
South Australian Education Resources Information System (SAERIS), 5
Southeast Curriculum Coordination Center, 59
Southeastern Educational Improvement Laboratory (SEIL), 82
Southwest Regional Laboratory for Educational Research and Development (SWRL), 36
Special Educational Needs Information Project (SENIEP), 92-93
St Aidan's School, 94
St Andrew's College of Education, 92, 93
St Kevin's School, 94
Stanford University, 105
State Library of South Australia, 10
Statewide School Library Support Centre, 8
Stirling Child Guidance Centre, 93
Stormont-Dundas Board of Education, 90
Strathclyde Evaluation Project, 69
Sudbury Board of Education, 90

Tasmania Department of Education, 5, 9
Teachers College Press, 45
Telecom Australia, 15
Thesaurus Advisory Panel, 112
Timiskaming Board of Education, 90
Toronto Board of Education, 90
Torphichen Education Centre, 93
Torres Strait Islander Pedagogy Project, 8
Training Enterprise and Education Directorate, 51
TVOntario, 86

United Nations Educational, Scientific and Cultural Organisation (UNESCO), 107, 108
United States Department of Education, Office of Educational Research and Improvement,
Educational Resources Information Center (ERIC), 14, 15, 19, 29, 56, 57, 59, 62, 78, 79, 100-132

United States Government Printing Office, 103, 108, 117, 119
United States Information Agency, 108
United States Office of Education, 22, 28, 36, 60, 103-104, 105
Universite de Montreal, 90
Universite du Quebec a Montreal, 90
Universite du Quebec a Trois-Rivieres, 90
University College of Swansea, 137
University Microfilms International, 32, 33, 119, 120
University of Alberta, 90
University of British Columbia, 90
University of Calgary, 90
University of Califonia, 59
University of Canberra, 7
University of Delaware, 39
University of Edinburgh, CALL Centre, 92, 93
University of Illinois at Chicago Circle, 36
University of Leeds, The Brotherton Library, 13, 14, 19, 56, 57, 108, 133-139
University of Manitoba, 90
University of New Mexico, 21
University of Oregon, 39
University of Ottawa, 89, 90
University of Regina, 90
University of Saskatchewan, 90
University of Southern California, 22
University of the State of New York, 34
University of Toronto, 89, 90
University of Victoria, 90
University of Warwick, 93
University of Waterloo, 90
University of Western Ontario, 89, 90
University of Windsor, 89, 90
Utah State University, 39

Victoria College, 10
Victoria Ministry of Education, 8, 9
Vocabulary Improvement Program, 112
Vocabulary Improvement Project, 112
Vocabulary Review Group, 112, 113

Waterloo Board of Education, 90
Waterloo Region Separate Board of Education, 90
Wellington County Board of Education, 90
Westerlea School, 93
Western Australia Department of Education, 6
Western Australian Educational Computing Consortium, 6
Western Curriculum Coordination Center, 59
Western Projects Office, (EPIE) Institute, 34, 36
Western Reserve University, 104
Whins of Milton School, 93
Whitegates School, 93
Wilberforce College, 70
Wilfred Laurier University, 90
William Dawson Holdings, 14, 50
Woodlands Teachers' Centre, 94

York Board of Education, 90
York Region Board of Education, 90
York University, 90